

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	fusobacterium and shuttle vector	2	<u>L8</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	fusobacterium same shuttle vector	0	<u>L7</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	fusobacterium and (repa or repA)	2	<u>L6</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	fusobacterium same plasmid	2	<u>L5</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	fusobacterium same pfn1	0	<u>L4</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	fusobacterium same (ori or origin of replication or replication origin)	1	<u>L3</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	fusobacterium and (ori or origin of replication or replication origin)	23	<u>L2</u>
USPT,PGPB,JPAB,EPAB,DWPI,TDBD	fusobacterium and iteron	0	<u>L1</u>

Attachment  
to paper # 5  
FoAM

**WEST**[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#)[Search Form](#)[Posting Counts](#)[Show 8 Numbers](#)[Edit 8 Numbers](#)[Preferences](#)**Search Results -**

Term	Documents
FUSOBACTERIUM.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	753
FUSOBACTERIUMS	0
FUSOBACTERIA.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	37
FUSOBACTERIAS	0
SHUTTLE.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	31867
SHUTTLES.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	3618
VECTOR.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	170967
VECTORS.DWPI,TDBD,EPAB,JPAB,USPT,PGPB.	81110
(FUSOBACTERIUM AND (SHUTTLE ADJ VECTOR)).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	2

**Database:**

US Patents Full-Text Database  
US Pre-Grant Publication Full-Text Database  
JPO Abstracts Database  
EPO Abstracts Database  
Derwent World Patents Index  
IBM Technical Disclosure Bulletins

**Refine Search:**

fusobacterium and shuttle vector

[Clear](#)**Search History****Today's Date: 8/24/2001**

### Status: Path 1 of [Dialog Information Services via Modem]

### Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceID pto-dialog)  
Trying 3106900061...Open

DIALOG INFORMATION SERVICES

PLEASE LOGON:

\*\*\*\*\* HHHHHHHH SSSSSSSS?

### Status: Signing onto Dialog

\*\*\*\*\*

ENTER PASSWORD:

\*\*\*\*\* HHHHHHHH SSSSSSSS? \*\*\*\*\*

Welcome to DIALOG

### Status: Connected

Dialog level 01.08.22D

Last logoff: 24aug01 09:28:23

Logon file001 24aug01 17:33:38

KWIC is set to 50.

HIGHLIGHT set on as '\*'

\* \* \*

\* \* \*

File 1:ERIC 1966-2001/Aug 17

(c) format only 2001 The Dialog Corporation

Set	Items	Description
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?b 5, 434, 155

24aug01 17:33:42	User259980	Session D148.1
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\$0.25	0.072	DialUnits File1
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\$0.25	Estimated cost	File1
--------	----------------	-------

\$0.25	Estimated cost	this search
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\$0.25	Estimated total session cost	0.072 DialUnits
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SYSTEM:OS - DIALOG OneSearch

File 5:Biosis Previews(R) 1969-2001/Aug W3

(c) 2001 BIOSIS

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

(c) 1998 Inst for Sci Info

File 155:MEDLINE(R) 1966-2001/Sep W3

Set	Items	Description
-----	-------	-------------

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-----	-------	-------

?s fusobacterium and iteron

6050	FUSOBACTERIUM
------	---------------

116	ITERON
-----	--------

S1	0	FUSOBACTERIUM AND ITERON
----	---	--------------------------

?s fusobacterium(s)(ori or origin)

6050	FUSOBACTERIUM
------	---------------

1889	ORI
------	-----

292582	ORIGIN
--------	--------

S2	73	FUSOBACTERIUM(S)(ORI OR ORIGIN)
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?rd

...examined 50 records (50)

...completed examining records

S3	53	RD (unique items)
----	----	-------------------

?s s3 and pnfl

53	S3
----	----

4	PNF1
---	------

S4	0	S3 AND PNF1
----	---	-------------

?s s3 and plasmid

53	S3
----	----

122510	PLASMID
--------	---------

S5	0	S3 AND PLASMID
----	---	----------------

?s s3 and repa

53	S3
----	----

764	REPA
-----	------

S6 0 S3 AND REPA  
? s s3 and rep  
53 S3  
3654 REP  
S7 0 S3 AND REP  
?s fusobacterium and electropor?  
6050 FUSOBACTERIUM  
7344 ELECTROPOR?  
S8 4 FUSOBACTERIUM AND ELECTROPOR?  
?rd  
...completed examining records  
S9 4 RD (unique items)  
?t/9/all

9/9/1 (Item 1 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2001 BIOSIS. All rts. reserv.

12030651 BIOSIS NO.: 199900311170  
Transformation of \*Fusobacterium\* nucleatum by \*electroporation\*.  
AUTHOR: Haake S Kinder(a); Yoder S C(a)  
AUTHOR ADDRESS: (a)School of Dentistry, UCLA, Los Angeles, CA\*\*USA  
JOURNAL: Abstracts of the General Meeting of the American Society for  
Microbiology 99p331 1999  
CONFERENCE/MEETING: 99th General Meeting of the American Society for  
Microbiology Chicago, Illinois, USA May 30-June 3, 1999  
SPONSOR: American Society for Microbiology  
ISSN: 1060-2011  
RECORD TYPE: Citation  
LANGUAGE: English  
DESCRIPTORS:  
MAJOR CONCEPTS: Methods and Techniques; Molecular Genetics (Biochemistry  
and Molecular Biophysics)  
BIOSYSTEMATIC NAMES: Bacteroidaceae--Anaerobic Gram-Negative Rods,  
Eubacteria, Bacteria, Microorganisms; Enterobacteriaceae--Facultatively  
Anaerobic Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms  
ORGANISMS: E. coli {Escherichia coli} (Enterobacteriaceae);  
\*Fusobacterium\* nucleatum (Bacteroidaceae)  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Bacteria; Eubacteria;  
Microorganisms  
CHEMICALS & BIOCHEMICALS: pHS17--shuttle plasmid; DNA--transfer  
METHODS & EQUIPMENT: \*electroporation\*--DNA transfer method  
MISCELLANEOUS TERMS: Meeting Abstract; Meeting Poster  
CONCEPT CODES:  
31500 Genetics of Bacteria and Viruses  
10050 Biochemical Methods-General  
10060 Biochemical Studies-General  
32000 Microbiological Apparatus, Methods and Media  
31000 Physiology and Biochemistry of Bacteria  
00520 General Biology-Symposia, Transactions and Proceedings of  
Conferences, Congresses, Review Annuals  
BIOSYSTEMATIC CODES:  
06702 Enterobacteriaceae (1992- )  
06901 Bacteroidaceae (1992- )

9/9/2 (Item 2 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2001 BIOSIS. All rts. reserv.

11623650 BIOSIS NO.: 199800405846  
Dentilism activity affects the organization of the outer sheath of  
Treponema denticola.  
AUTHOR: Ishihara Kazuyuki(a); Kuramitsu Howard K; Miura Tadashi; Okuda  
Katsuji  
AUTHOR ADDRESS: (a)Dep. Microbiol., Oral Health Sci. Cent., Tokyo Dent.  
Coll., 1-2-2 Masago, Mihama-ku, Chiba 261-8\*\*Japan  
JOURNAL: Journal of Bacteriology 180 (15):p3837-3844 Aug., 1998  
ISSN: 0021-9193  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Prolyl-phenylalanine-specific serine protease (dentilisin) is a major extracellular protease produced by *Treponema denticola*. The gene, prtP, coding for the protease was recently cloned and sequenced (K. Ishihara, T. Miura, H. K. Kuramitsu, and K. Okuda, Infect. Immun. 64:5178-5186, 1996). In order to determine the role of this protease in the physiology and virulence of *T. denticola*, a dentilisin-deficient mutant, K1, was constructed following \*electroporation\* with a prtP-inactivated DNA fragment. No chymotrypsin-like protease activity was detected in the dentilisin-deficient mutant. In addition, the high-molecular-mass oligomeric protein characteristic of the outer sheath of the organism decreased in the mutant. Furthermore, the hydrophobicity of the mutant was decreased, and coaggregation of the mutant with \*Fusobacterium\* nucleatum was enhanced compared to that of the wild-type organism. The results obtained with a mouse abscess model system indicated that the virulence of the mutant was attenuated relative to that of the wild-type organism. These results suggest that dentilisin activity plays a major role in the structural organization of the outer sheath of *T. denticola*. The loss of dentilisin activity and the structural change in the outer sheath affect the pathogenicity of *T. denticola*.

REGISTRY NUMBERS: 37259-58-8D: SERINE PROTEASES

DESCRIPTORS:

MAJOR CONCEPTS: Enzymology (Biochemistry and Molecular Biophysics);

Infection; Morphology

BIOSYSTEMATIC NAMES: Bacteroidaceae--Anaerobic Gram-Negative Rods,

Eubacteria, Bacteria, Microorganisms; Spirochaetaceae--Spirochaetales,

Spirochetes, Eubacteria, Bacteria, Microorganisms

ORGANISMS: \*Fusobacterium\*-nucleatum (Bacteroidaceae)--pathogen;

*Treponema-denticola* (Spirochaetaceae)--pathogen

ORGANISMS: PARTS ETC: outer sheath--organization

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Bacteria; Eubacteria;

Microorganisms

CHEMICALS & BIOCHEMICALS: dentilisin--activity; serine proteases; DNA fragments

MISCELLANEOUS TERMS: bacterial ultrastructure; enzyme-deficient mutants ; pathogenicity; physiology

CONCEPT CODES:

36002 Medical and Clinical Microbiology-Bacteriology

10064 Biochemical Studies-Proteins, Peptides and Amino Acids

10804 Enzymes-Methods

12502 Pathology, General and Miscellaneous-General

19001 Dental and Oral Biology-General; Methods

30500 Morphology and Cytology of Bacteria

31000 Physiology and Biochemistry of Bacteria

31500 Genetics of Bacteria and Viruses

32000 Microbiological Apparatus, Methods and Media

32300 Microbiological Ultrastructure (1972- )

BIOSYSTEMATIC CODES:

06112 Spirochaetaceae (1992- )

06901 Bacteroidaceae (1992- )

9/9/3 (Item 3 from file: 5)

DIALOG(R)File 5: Biosis Previews(R)

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06944118 BIOSIS NO.: 000089066120

PROPOSAL OF THREE SUBSPECIES OF \*FUSOBACTERIUM\*-NUCLEATUM KNORR 1922

\*FUSOBACTERIUM\*-NUCLEATUM-SSP-NUCLEATUM NEW-SUBSPECIES NEW-COMBINATION

\*FUSOBACTERIUM\*-NUCLEATUM-SSP-POLYMORPHUM NEW-SUBSPECIES NEW-COMBINATION

REVIVED NAME AND \*FUSOBACTERIUM\*-NUCLEATUM-SSP-VINCENTII NEW-SUBSPECIES

NEW-COMBINATION REVIVED NAME

AUTHOR: DZINK J L; SHEENAN M T; SOCRANSKY S S

AUTHOR ADDRESS: FORSYTH DENT. CENT., BOSTON, MASS. 02115.

JOURNAL: INT J SYST BACTERIOL 40 (1). 1990. 74-78. 1990

FULL JOURNAL NAME: International Journal of Systematic Bacteriology

CODEN: IJSBA

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: Heterogeneity among isolates of *Fusobacterium* nucleatum has been recognized for many years. The phenotypic properties of 340 strains considered to be *F. nucleatum* were examined. While these strains were phenotypically similar and fit the description of *F. nucleatum*, they could be differentiated into three groups on the basis of \*electroporetic\* patterns of whole-cell proteins and DNA homology. Strains in groups I and II showed > 80% DNA homology within groups and < 75% similarity between groups. Strains of group III demonstrated > 85% DNA homology to each other and < 65% similarity to strains in groups I and II. We propose that *Fusobacterium* nucleatum be divided into the following three subspecies: *Fusobacterium* nucleatum subsp. nucleatum, with type strain ATCC 25586; *Fusobacterium* nucleatum subsp. polymorphum, with type strain ATCC 10953; and *Fusobacterium* nucleatum subsp. vincentii, with type strain ATCC 49256.

DESCRIPTORS: \*FUSOBACTERIUM\*-POLYMORPHUM WHOLE CELL PROTEIN PATTERN DNA HOMOLOGY

CONCEPT CODES:

00504 General Biology-Taxonomy, Nomenclature and Terminology  
 30000 Bacteriology, General and Systematic  
 31000 Physiology and Biochemistry of Bacteria  
 31500 Genetics of Bacteria and Viruses  
 10010 Comparative Biochemistry, General  
 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
 10506 Biophysics-Molecular Properties and Macromolecules  
 32000 Microbiological Apparatus, Methods and Media

BIOSYSTEMATIC CODES:

04910 Bacteroidaceae (1979- )  
 Microorganisms  
 Bacteria

9/9/4 (Item 1 from file: 155)  
 DIALOG(R) File 155:MEDLINE(R)

09822318 98348445 PMID: 9683480

Dentilisin activity affects the organization of the outer sheath of *Treponema denticola*.

Ishihara K; Kuramitsu HK; Miura T; Okuda K  
 Department of Microbiology, Oral Health Science Center, Tokyo Dental College, 1-2-2 Masago, Mihama-ku, Chiba 261-8502, Japan. ishihara@tdc.ac.jp  
 Journal of bacteriology (UNITED STATES) Aug 1998, 180 (15) p3837-44,  
 ISSN 0021-9193 Journal Code: HH3  
 Languages: ENGLISH  
 Document type: Journal Article  
 Record type: Completed  
 Subfile: INDEX MEDICUS

Prolyl-phenylalanine-specific serine protease (dentilisin) is a major extracellular protease produced by *Treponema denticola*. The gene, prtP, coding for the protease was recently cloned and sequenced (K. Ishihara, T. Miura, H. K. Kuramitsu, and K. Okuda, Infect. Immun. 64:5178-5186, 1996). In order to determine the role of this protease in the physiology and virulence of *T. denticola*, a dentilisin-deficient mutant, K1, was constructed following \*electroporation\* with a prtP-inactivated DNA fragment. No chymotrypsin-like protease activity was detected in the dentilisin-deficient mutant. In addition, the high-molecular-mass oligomeric protein characteristic of the outer sheath of the organism decreased in the mutant. Furthermore, the hydrophobicity of the mutant was decreased, and coaggregation of the mutant with *Fusobacterium* nucleatum was enhanced compared to that of the wild-type organism. The results obtained with a mouse abscess model system indicated that the virulence of the mutant was attenuated relative to that of the wild-type organism. These results suggest that dentilisin activity plays a major role in the structural organization of the outer sheath of *T. denticola*. The loss of dentilisin activity and the structural change in the outer sheath affect the pathogenicity of *T. denticola*.

Tags: Animal; Support, Non-U.S. Gov't  
 Descriptors: \*Cell Membrane--ultrastructure--UL; \*Chymotrypsin--metabolism--ME; \*Treponema--physiology--PH; Cell Membrane--physiology--PH

; Chymotrypsin--genetics--GE; Chymotrypsin--isolation and purification--IP  
; Cloning, Molecular; Electrophoresis, Polyacrylamide Gel; Escherichia coli  
--genetics--GE; \*Fusobacterium\*--genetics--GE; Immunoblotting; Mice;  
Periodontal Abscess--microbiology--MI; Periodontal Abscess--physiopatholog  
y--PP; Plasmids; Polymerase Chain Reaction; Porphyromonas gingivalis  
--genetics--GE; Recombinant Proteins--biosynthesis--BI; Recombinant  
Proteins--isolation and purification--IP; Recombinant Proteins--metabolism  
--ME; Treponema--enzymology--EN; Treponema--genetics--GE; Treponema  
--pathogenicity--PY; Treponemal Infections--physiopathology--PP; Virulence  
CAS Registry No.: 0 (Plasmids); 0 (Recombinant Proteins)  
Enzyme No.: EC 3.4.21.- (dientilisin); EC 3.4.21.1 (Chymotrypsin)

Record Date Created: 19980820

?s fusobacterium and plasmid?

6050 FUSOBACTERIUM

174177 PLASMID?

S10 40 FUSOBACTERIUM AND PLASMID?

?rd

...completed examining records

S11 28 RD (unique items)

?t/9/all

11/9/1 (Item 1 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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12360222 BIOSIS NO.: 200000113724

Native \*plasmids\* of \*Fusobacterium\* nucleatum: Characterization and use in  
development of genetic systems.

AUTHOR: Kinder Haake Susan(a); Yoder Sean C; Attarian Gwynne; Podkaminer  
Kara

AUTHOR ADDRESS: (a)Section of Periodontics, UCLA School of Dentistry, 10833  
Le Conte Ave., Los Angeles, CA, 90095-1668\*\*USA

JOURNAL: Journal of Bacteriology 182 (4):p1176-1180 Feb., 2000

ISSN: 0021-9193

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

ABSTRACT: Three native \*plasmids\* of \*Fusobacterium\* nucleatum were  
characterized, including DNA sequence analysis of one \*plasmid\*, pFN1. A  
shuttle \*plasmid\*, pHS17, capable of transforming Escherichia coli and F.  
nucleatum ATCC 10953 was constructed with pFN1. pHS17 was stably  
maintained in the F. nucleatum transformants, and differences in the  
transformation efficiencies suggested the presence of a  
restriction-modification system in F. nucleatum.

#### DESCRIPTORS:

MAJOR CONCEPTS: Molecular Genetics (Biochemistry and Molecular  
Biophysics)

BIOSYSTEMATIC NAMES: Bacteroidaceae--Anaerobic Gram-Negative Rods,  
Eubacteria, Bacteria, Microorganisms; Enterobacteriaceae--Facultatively  
Anaerobic Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms

ORGANISMS: Escherichia coli (Enterobacteriaceae); \*Fusobacterium\*  
nucleatum (Bacteroidaceae)--strain-ATCC 10953

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Bacteria; Eubacteria;  
Microorganisms

CHEMICALS & BIOCHEMICALS: pFN1--\*Fusobacterium\* nucleatum native  
\*plasmid\*, characterization, shuttle \*plasmid\*; pFN1. pHS17

METHODS & EQUIPMENT: DNA sequence analysis--analytical method, molecular  
genetic method

MISCELLANEOUS TERMS: restriction-modification system

#### CONCEPT CODES:

31500 Genetics of Bacteria and Viruses

10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines

10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

32000 Microbiological Apparatus, Methods and Media

10506 Biophysics-Molecular Properties and Macromolecules

31000 Physiology and Biochemistry of Bacteria

#### BIOSYSTEMATIC CODES:

06702 Enterobacteriaceae (1992- )

Post filing  
date

06901 Bacteroidaceae (1992- )

11/9/2 (Item 2 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2001 BIOSIS. All rts. reserv.

12030651 BIOSIS NO.: 199900311170  
Transformation of \*Fusobacterium\* nucleatum by electroporation.  
AUTHOR: Haake S Kinder(a); Yoder S C(a)  
AUTHOR ADDRESS: (a)School of Dentistry, UCLA, Los Angeles, CA\*\*USA  
JOURNAL: Abstracts of the General Meeting of the American Society for Microbiology 99p331 1999  
CONFERENCE/MEETING: 99th General Meeting of the American Society for Microbiology Chicago, Illinois, USA May 30-June 3, 1999  
SPONSOR: American Society for Microbiology  
ISSN: 1060-2011  
RECORD TYPE: Citation  
LANGUAGE: English  
DESCRIPTORS:  
MAJOR CONCEPTS: Methods and Techniques; Molecular Genetics (Biochemistry and Molecular Biophysics)  
BIOSYSTEMATIC NAMES: Bacteroidaceae--Anaerobic Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms; Enterobacteriaceae--Facultatively Anaerobic Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms  
ORGANISMS: E. coli {Escherichia coli} (Enterobacteriaceae);  
\*Fusobacterium\* nucleatum (Bacteroidaceae)  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Bacteria; Eubacteria; Microorganisms  
CHEMICALS & BIOCHEMICALS: pHS17--shuttle \*plasmid\*; DNA--transfer  
METHODS & EQUIPMENT: electroporation--DNA transfer method  
MISCELLANEOUS TERMS: Meeting Abstract; Meeting Poster  
CONCEPT CODES:  
31500 Genetics of Bacteria and Viruses  
10050 Biochemical Methods-General  
10060 Biochemical Studies-General  
32000 Microbiological Apparatus, Methods and Media  
31000 Physiology and Biochemistry of Bacteria  
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals  
BIOSYSTEMATIC CODES:  
06702 Enterobacteriaceae (1992- )  
06901 Bacteroidaceae (1992- )

11/9/3 (Item 3 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2001 BIOSIS. All rts. reserv.

11965428 BIOSIS NO.: 199900218741  
Characterisation of a 5.5-kb cryptic \*plasmid\* present in different isolates of Bacteroides spp. originating from Hungary.  
AUTHOR: Soki J; Szoke I; Nagy Elisabeth(a)  
AUTHOR ADDRESS: (a)Department of Clinical Microbiology, Albert Szent-Gyorgyi Medical University, Szeged\*\*Hungary  
JOURNAL: Journal of Medical Microbiology 48 (1):p25-31 Jan., 1999  
ISSN: 0022-2615  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
ABSTRACT: The \*plasmid\* profiles of 97 Bacteroides isolates collected during screening for different pathogenic markers of this genus were investigated. In all, 48% of 69 isolates from infections that belonged to six species harboured low mol. wt \*plasmids\* (2.8-11.0 kb). Similar \*plasmids\* were also found in 39% of 28 isolates, belonging to eight species, from faeces of healthy persons. The two most frequently obtained types were the 5.5- and the 4.2-kb \*plasmids\*, which were present in 70% and 52% of all \*plasmid\*-bearing isolates, respectively. Restriction endonuclease analysis revealed that the 5.5-kb \*plasmids\* found in the



different *Bacteroides* spp. exhibited the same restriction map, with the exception that pBVP61 lacked the PstI recognition site. The two \*plasmid\* types (4.2 and 5.5 kb) seem to be most widely distributed among *Bacteroides* isolates independent of the site of isolation and with some differences depending on geographic regions.

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Infection

BIOSYSTEMATIC NAMES: Bacteroidaceae--Anaerobic Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms; Gram-Negative Aerobic Rods and Cocci--Eubacteria, Bacteria, Microorganisms; Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGANISMS: human (Hominidae)--patient; *Bacteroides* spp. (Bacteroidaceae)

--pathogen; *Flavobacterium* sp. (Gram-Negative Aerobic Rods and Cocci)

--pathogen; *Fusobacterium*\* sp. (Bacteroidaceae)--pathogen;

*Porphyromonas* sp. (Bacteroidaceae)--pathogen

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Bacteria; Chordates;

Eubacteria; Humans; Mammals; Microorganisms; Primates; Vertebrates

CHEMICALS & BIOCHEMICALS: 5.5 kb cryptic \*plasmid\*

GEOGRAPHICAL NAME: Hungary (Europe, Palearctic region)

CONCEPT CODES:

36001 Medical and Clinical Microbiology-General; Methods and Techniques

10060 Biochemical Studies-General

30000 Bacteriology, General and Systematic

BIOSYSTEMATIC CODES:

06500 Gram-Negative Aerobic Rods and Cocci (1992- )

06901 Bacteroidaceae (1992- )

86215 Hominidae

11/9/4 (Item 4 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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10927251 BIOSIS NO.: 199799548396

Cloning and expression of *FomA*, the major outer-membrane protein gene from *Fusobacterium*\* nucleatum T18.

AUTHOR: Haake Susan Kinder(a); Wang Xiurong

AUTHOR ADDRESS: (a)Section Periodontics, UCLA Sch. Dentistry, 10833 Le Conte Ave., Los Angeles, CA 90095-1668\*\*USA

JOURNAL: Archives of Oral Biology 42 (1):p19-24 1997

ISSN: 0003-9969

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: The major outer-membrane protein, *FomA*, of *Fusobacterium*\* nucleatum has been associated with porin activity, interbacterial adherence and stimulation of host immune cells. Until now, molecular analysis of *FomA* has not been possible because previous attempts to clone the *fomA* gene were not successful. The inability to clone *F. nucleatum* genes led to speculation that *Escherichia coli* may not be a suitable host. This report concerns the amplification of the *fomA* gene of *F. nucleatum* T18 using oligonucleotide primers containing restriction endonuclease sites that allow cloning of *fomA* into the *E. coli* expression vector pMMB67. The resultant \*plasmid\*, pXW1, was transformed into *E. coli* DH5- $\alpha$ , providing high-level expression of recombinant *FomA* (r*FomA*). Amino acid sequencing of r*FomA* demonstrated that the *FomA* signal peptide was correctly processed by *E. coli* signal peptidase I. r*FomA* was correctly localized to the outer membrane by the *E. coli* export pathway. The r*FomA* protein also displayed the heat-modifiable oligomeric and conformational properties of native *FomA* (n*FomA*). This demonstration of r*FomA* expression, processing, export, and secondary and tertiary structure in *E. coli* provides support for the feasibility of molecular analysis of the structure and function of *FomA* and other *F. nucleatum* proteins using recombinant techniques.

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics;

Membranes (Cell Biology); Methods and Techniques; Physiology

BIOSYSTEMATIC NAMES: Bacteroidaceae--Eubacteria, Bacteria;

Enterobacteriaceae--Eubacteria, Bacteria

ORGANISMS: *Escherichia coli* (Enterobacteriaceae); \**Fusobacterium*\*  
*nucleatum* (Bacteroidaceae)  
 BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria;  
 microorganisms  
 MOLECULAR SEQUENCE DATABANK NUMBER: amino acid sequence  
 MISCELLANEOUS TERMS: Research Article; CLONING; EXPRESSION; EXPRESSION  
 VECTOR; FOMA; GENE EXPRESSION; MOLECULAR GENETICS; OUTER MEMBRANE  
 PROTEIN; OUTER-MEMBRANE PROTEIN GENE; PORIN; STRAIN-T18  
 CONCEPT CODES:  
 10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
 10504 Biophysics-General Biophysical Techniques  
 10506 Biophysics-Molecular Properties and Macromolecules  
 10508 Biophysics-Membrane Phenomena  
 31000 Physiology and Biochemistry of Bacteria  
 31500 Genetics of Bacteria and Viruses  
 BIOSYSTEMATIC CODES:  
 06702 Enterobacteriaceae (1992- )  
 06901 Bacteroidaceae (1992- )

11/9/5 (Item 5 from file: 5)  
 DIALOG(R)File 5:Biosis Previews(R)  
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10696762 BIOSIS NO.: 199799317907  
 Cloning of the *fomA* gene, encoding the major outer membrane porin of  
 \**Fusobacterium*\* *nucleatum* ATCC10953.  
 AUTHOR: Jensen H B; Skeidsvoll J; Fjellbirkeland A; Høgh B; Puntervoll P;  
 Kleivdal H; Tommassen J(a)  
 AUTHOR ADDRESS: (a)Dep. Biochem. Mol. Biol., Univ. Bergen, Aarstadveien 19,  
 N-5009 Bergen\*\*Norway  
 JOURNAL: Microbial Pathogenesis 21 (5):p331-342 1996  
 ISSN: 0882-4010  
 RECORD TYPE: Abstract  
 LANGUAGE: English

ABSTRACT: The major outer membrane protein, *FomA*, of the Gram-negative  
 human oral pathogen \**Fusobacterium*\* *nucleatum* functions as a porin and is  
 assumed to act as a receptor protein in coaggregation with other oral  
 pathogenic bacteria such as *Streptococcus sanguis* and *Porphyromonas*  
*gingivalis*. We describe here the cloning of *fomA* from *F. nucleatum* in *E.*  
*coli*. Using pGEM3Zf(+), three recombinant \*plasmids\* were carrying parts  
 of the *fomA* gene, but none of these contained regions upstream of the  
 coding sequence. From these \*plasmids\* a clone was constructed which  
 contained the whole *fomA* gene. The ATCC 10953 *fomA* gene was cloned under  
 the phosphate limitation-inducible *phoE* promoter, using a vector derived  
 from pACYC184. The protein was found to be incorporated into the outer  
 membrane of the host in an apparently normal manner, as judged by  
 heat-modifiability, trypsin-accessibility, and accessibility to  
 antibodies to the protein in a whole cell enzyme-linked immunosorbent  
 assay. The cloned *FomA* was found to exhibit pore-forming activity.

#### DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology;  
 Dental and Oral System (Ingestion and Assimilation); Genetics;  
 Infection; Membranes (Cell Biology); Metabolism; Methods and Techniques  
 ; Molecular Genetics (Biochemistry and Molecular Biophysics); Pathology  
 ; Physiology  
 BIOSYSTEMATIC NAMES: Bacteroidaceae--Eubacteria, Bacteria  
 ORGANISMS: \**Fusobacterium*\* *nucleatum* (Bacteroidaceae)  
 BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria;  
 microorganisms  
 MISCELLANEOUS TERMS: Research Article; CELL BIOLOGY; CLONING; ENCODES  
 MAJOR OUTER MEMBRANE PORIN; FOMA GENE; INFECTION; MOLECULAR GENETICS;  
 ORAL PATHOGENS; OUTER MEMBRANE PROTEINS; PORE-FORMING ACTIVITY; PORINS;  
 RECOMBINANT \*PLASMIDS\*; STRAIN-ATCC10953

#### CONCEPT CODES:

10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines  
 10054 Biochemical Methods-Proteins, Peptides and Amino Acids  
 10300 Replication, Transcription, Translation  
 10506 Biophysics-Molecular Properties and Macromolecules

10508 Biophysics-Membrane Phenomena  
12502 Pathology, General and Miscellaneous-General  
13012 Metabolism-Proteins, Peptides and Amino Acids  
19006 Dental and Oral Biology-Pathology  
30500 Morphology and Cytology of Bacteria  
31000 Physiology and Biochemistry of Bacteria  
31500 Genetics of Bacteria and Viruses  
36002 Medical and Clinical Microbiology-Bacteriology

BIOSYSTEMATIC CODES:

06901 Bacteroidaceae (1992- )

11/9/6 (Item 6 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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10368495 BIOSIS NO.: 199698823413

Structural organization of pRAM4, a cryptic \*plasmid\* from *Prevotella ruminicola*.

AUTHOR: Ogata Koretsugu; Aminov Rustem I(a); Nagamine Takafumi; Benno Yoshimi; Sezaki Tsutomu; Mitsumori Makoto; Minato Hajime; Itabashi Hisao

AUTHOR ADDRESS: (a)STAFF-Inst., Tsukuba 305\*\*Japan

JOURNAL: Plasmid 35 (2):p91-97 1996

ISSN: 0147-619X

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: A total of 530 strains of rumen bacteria were screened for the presence of \*plasmid\* DNA. The percentage of \*plasmid\*-bearing strains was found to be the highest among the *Bacteroides*/*Prevotella* group (9.9%), while it was less than 1% in the *Butyrivibrio* (0.2%) and *Clostridium* (0.6%) genera. A small cryptic \*plasmid\* pRAM4 from *Prevotella ruminicola* T31 was subcloned in *Escherichia coli* and completely sequenced. Two open reading frames, encoding potential polypeptides of M-r 32,322 (ORF1) and 32,122 (ORF2) with limited sequence similarity to replication initiation and mobilization proteins, respectively, could be identified within the sequence. The region upstream from ORF1 had an AT-rich (75%) region followed by four 22-bp direct repeats, a structure characteristic of replication origins. The \*plasmid\* hybridized at high stringency with \*plasmids\* from *Bacteroides*/*Prevotella* and *Butyrivibrio*, and with pBR322 suggesting that at least regions of the \*plasmid\* are widespread.

REGISTRY NUMBERS: 167207-41-2: GENBANK-U30294

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Physiology

BIOSYSTEMATIC NAMES: Bacteroidaceae--Eubacteria, Bacteria;

Endospore-forming Gram-Positives--Eubacteria, Bacteria; Gram-Positive

Cocci--Eubacteria, Bacteria; Irregular Nonsporing Gram-Positive Rods--

Eubacteria, Bacteria; Regular Nonsporing Gram-Positive Rods--Eubacteria

, Bacteria; Veillonellaceae--Eubacteria, Bacteria

ORGANISMS: endospore-forming gram-positive rods and cocci

(Endospore-forming Gram-Positives); gram-positive cocci (Gram-Positive

Cocci); irregular nonsporing gram-positive rods (Irregular Nonsporing

Gram-Positive Rods); regular nonsporing gram-positive rods (Regular

Nonsporing Gram-Positive Rods); *Bacteroides* (Bacteroidaceae);

*Bifidobacterium* (Irregular Nonsporing Gram-Positive Rods); *Butyrivibrio*

(Irregular Nonsporing Gram-Positive Rods); *Clostridium*

(Endospore-forming Gram-Positives); *Eubacterium* (Irregular Nonsporing

Gram-Positive Rods); *Fibrobacter succinogenes* (Bacteroidaceae);

\**Fusobacterium*\* (Bacteroidaceae); *Lactobacillus* (Regular Nonsporing

Gram-Positive Rods); *Megasphaera* (Veillonellaceae); *Peptostreptococcus*

(Gram-Positive Cocci); *Prevotella ruminicola* (Bacteroidaceae);

*Propionibacterium* (Irregular Nonsporing Gram-Positive Rods);

*Ruminobacter amylophilus* (Bacteroidaceae); *Ruminococcus albus*

(Gram-Positive Cocci)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria;  
microorganisms

CHEMICALS & BIOCHEMICALS: GENBANK-U30294

MOLECULAR SEQUENCE DATABANK NUMBER: amino acid sequence; molecular sequence  
data; nucleotide sequence; GENBANK-U30294

MISCELLANEOUS TERMS: DNA COMPARISON; MOBILIZATION PROTEIN; PBR322;  
REPLICATION INITIATION PROTEIN; REPLICATION ORIGIN

CONCEPT CODES:

03502 Genetics and Cytogenetics-General  
10010 Comparative Biochemistry, General  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
31000 Physiology and Biochemistry of Bacteria  
31500 Genetics of Bacteria and Viruses

BIOSYSTEMATIC CODES:

06901 Bacteroidaceae (1992- )  
07001 Veillonellaceae (1992- )  
07700 Gram-Positive Cocci (1992- )  
07810 Endospore-forming Gram-Positives (1992- )  
07830 Regular Nonsporing Gram-Positive Rods (1992- )  
08890 Irregular Nonsporing Gram-Positive Rods (1992- )

11/9/7 (Item 7 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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09974676 BIOSIS NO.: 199598429594

Insertional inactivation of binding determinants of *Streptococcus crista*  
CC5A using Tn916.

AUTHOR: Correia F F; Dirienzo J M; Lamont R J; Anderman C; McKay T L; Rosan  
Burton(a)

AUTHOR ADDRESS: (a)Dep. Microbiol., Sch. Dent. Med., Univ. Pa., 4001 Spruce  
St., Philadelphia, PA 19104-6002\*\*USA

JOURNAL: Oral Microbiology and Immunology 10 (4):p220-226 1995

ISSN: 0902-0055

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Intermicrobial binding plays an important role in the ecology of the oral cavity because it represents one mechanism by which specific bacteria colonize dental plaque. The formation of "corncobs", a morphologically distinct microbial unit composed of *Streptococcus crista* and *Fusobacterium nucleatum*, is a highly specific binding interaction that depends on the presence of polar tufts of fimbriae on the streptococci. We have used a genetic approach to examine the role of streptococcal cell surface components involved in the binding of *S. crista* to *F. nucleatum*. Such binding may be an important component of corncob formation. A method for the genetic transformation of *S. crista* was used to transfer the broad host range transposon, Tn916, into the bacteria. Cells were grown to early log phase in brain heart infusion broth containing 10% fetal calf serum. The competent cells were mixed with purified DNA from pDL916, a *plasmid* construct consisting of Tn916 and the streptococcal/*Escherichia coli* shuttle vector pDL278. Over 300 transformants were screened for a reduction in binding to *F. nucleatum*. Five of the transformants showed a change in binding ranging from 59% to 29% of the positive control values. Southern blots revealed that the binding-deficient transformants contained the Tn916 element integrated into one of 4 different sites in the chromosome. The transposon, integrated into 4 different sites, appeared to be stable in the absence of selective pressure. Based on these findings, it appears that some strains of *S. crista* are naturally competent and that insertional inactivation methods can be used to facilitate the study of binding receptors in this group of oral streptococci.

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics;  
Membranes (Cell Biology); Physiology

BIOSYSTEMATIC NAMES: Bacteroidaceae--Eubacteria, Bacteria; Gram-Positive  
Cocci--Eubacteria, Bacteria

ORGANISMS: gram-positive cocci (Gram-Positive Cocci); *Fusobacterium*  
*nucleatum* (Bacteroidaceae); *Streptococcus crista* (Gram-Positive Cocci)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria;

microorganisms  
MISCELLANEOUS TERMS: BINDING RECEPTOR; CELL SURFACE COMPONENT; DNA  
TRANSFER

CONCEPT CODES:

10506 Biophysics-Molecular Properties and Macromolecules  
10508 Biophysics-Membrane Phenomena  
31000 Physiology and Biochemistry of Bacteria  
31500 Genetics of Bacteria and Viruses  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

BIOSYSTEMATIC CODES:

06901 Bacteroidaceae (1992- )  
07700 Gram-Positive Cocci (1992- )

11/9/8 (Item 8 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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09730705 BIOSIS NO.: 199598185623

Mobile genetic elements of *Fusobacterium* nucleatum.

AUTHOR: McKay Terry L; Ko Julie; Bilalis Yioryos; Dirienzo Joseph M(a)

AUTHOR ADDRESS: (a)Dep. Microbiol., Univ. Pa., Sch. Dent. Med., 4001 Spruce  
St., Philadelphia, PA 19104-6002\*\*USA

JOURNAL: Plasmid 33 (1):p15-25 1995

ISSN: 0147-619X

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: The gram-negative anaerobic bacterium, *Fusobacterium* nucleatum, is a predominant member of the human oral flora. As a major component of subgingival plaque, this bacterium has a significant impact on the ecology of the oral cavity due to its ability to adhere to many different microbial species. The objective of this study was to identify and characterize *plasmids*\* and transposons that may have the potential to be developed into tools for cloning, genetic transformation, and mutagenesis of oral isolates of *F. nucleatum*. Analysis of a collection of laboratory strains resulted in the identification of a homologous family of small cryptic *plasmids*\*. *Plasmids*\* within this family ranged in size from 6.0 to 6.6 kb. Eighteen percent of all strains examined (n = 74) contained DNA sequences related to the *plasmids*\*. Homologous *plasmid*\* sequences were found in strains belonging to 2 of the 3 subspecies of the bacterium. The 2 smallest *plasmid*\* species were cloned in *Escherichia coli* to facilitate endonuclease restriction mapping. Among the strains examined for *plasmids*\*, 5 exhibited resistance to at least 10  $\mu$ -g/ml of tetracycline. These strains, all members of the subsp. polymorphum, contained a tetracycline resistance determinant (TetM) as part of a Tn916-like integrated transposon sequence. The Tn916-like element and 1 of the *plasmid*\* species co-resided in a single strain of the bacterium. Hybridization patterns of the Tn916-like sequences were identical in all 5 tetracycline-resistant strains. However, these strains appeared to be clonally distinct based on genomic fingerprinting.

REGISTRY NUMBERS: 60-54-8: TETRACYCLINE

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics;  
Pharmacology; Physiology

BIOSYSTEMATIC NAMES: Bacteroidaceae--Eubacteria, Bacteria; Hominidae--  
Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGANISMS: *Fusobacterium*\* nucleatum nucleatum (Bacteroidaceae);  
*Fusobacterium*\* nucleatum polymorphum (Bacteroidaceae); *Fusobacterium*\*  
nucleatum vincentii (Bacteroidaceae); Hominidae (Hominidae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; bacteria; chordates;  
eubacteria; humans; mammals; microorganisms; primates; vertebrates

CHEMICALS & BIOCHEMICALS: TETRACYCLINE

MISCELLANEOUS TERMS: HUMAN ORAL CAVITY; TETRACYCLINE RESISTANCE GENE;  
TN916-LIKE INTEGRATED TRANSPOSON SEQUENCE

CONCEPT CODES:

03502 Genetics and Cytogenetics-General  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
22002 Pharmacology-General

31000 Physiology and Biochemistry of Bacteria  
31500 Genetics of Bacteria and Viruses  
19006 Dental and Oral Biology-Pathology  
36002 Medical and Clinical Microbiology-Bacteriology  
BIOSYSTEMATIC CODES:  
06901 Bacteroidaceae (1992- )  
86215 Hominidae

11/9/9 (Item 9 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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09445759 BIOSIS NO.: 199497454129  
Sequence variability of the 40-kDa outer membrane proteins of  
\*Fusobacterium\* nucleatum strains and a model for the topology of the  
proteins.  
AUTHOR: Bolstad Anne Isine(a); Tommassen Jan; Jensen Harald B  
AUTHOR ADDRESS: (a)Dep. Biochem. Mol. Biol., Lab. Oral Microbiol., Univ.  
Bergen, Arstadveien 19, 5009 Bergen\*\*Norway  
JOURNAL: Molecular & General Genetics 244 (1):p104-110 1994  
ISSN: 0026-8925  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: The complete nucleotide sequences of the fomA genes encoding the  
40-kDa outer membrane proteins (OMPs) of strains ATCC 10953 and ATCC  
25586 of \*Fusobacterium\* nucleatum were determined using the genomic DNA,  
or DNA fragments ligated into a vector \*plasmid\*, as template in a  
polymerase chain reaction. The deduced amino acid sequences of these two  
proteins were aligned with the amino acid sequence of the corresponding  
protein of F. nucleatum strain Fev1 and examined for conserved/variable  
polypeptide segments. A model for the topology of the 40-kDa OMPs is  
proposed on the basis of this alignment and application of the structural  
principles derived for OMPs of Escherichia coli. According to this model,  
sixteen polypeptide segments, which are highly conserved, traverse the  
outer membrane, thereby creating eight external loops, most of which are  
highly variable.

REGISTRY NUMBERS: 8027-51-8: AMINO CID  
DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics;  
Membranes (Cell Biology); Physiology  
BIOSYSTEMATIC NAMES: Bacteroidaceae--Eubacteria, Bacteria  
ORGANISMS: \*Fusobacterium\* nucleatum (Bacteroidaceae)  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria;  
microorganisms  
CHEMICALS & BIOCHEMICALS: AMINO CID  
MOLECULAR SEQUENCE DATABANK NUMBER: amino acid sequence; molecular sequence  
data; nucleotide sequence; EMBL-X72582; EMBL-X72583  
MISCELLANEOUS TERMS: DNA; FOMA GENE  
CONCEPT CODES:  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10508 Biophysics-Membrane Phenomena  
31000 Physiology and Biochemistry of Bacteria  
31500 Genetics of Bacteria and Viruses  
BIOSYSTEMATIC CODES:  
06901 Bacteroidaceae (1992- )

11/9/10 (Item 10 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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09257787 BIOSIS NO.: 199497266157  
Comparative antibacterial spectrum of trimethoprim and brodimoprim.  
AUTHOR: Amyes S G B  
AUTHOR ADDRESS: Scottish Antibiotic Reference Lab., Dep. Med. Microbiol.,  
Med. Sch., Univ. Edinburgh, Teviot Place, \*\*UK

JOURNAL: Journal of Chemotherapy 5 (6):p417-421 1993  
ISSN: 1120-009X  
DOCUMENT TYPE: Literature Review  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Brodimoprim is a new 2,4-diaminobenzylpyrimidine that selectively inhibits bacterial and resistance \*plasmid\* dihydrofolate reductases to a similar or greater extent than trimethoprim. Brodimoprim reaches equivalent levels in the serum as trimethoprim for the same dosage regimens but, unlike trimethoprim, brodimoprim has a long half-life. Brodimoprim has a similar antibacterial spectrum to trimethoprim against bacterial species normally sensitive to this class of drugs although it is not active against aerobic bacteria that are normally inherently trimethoprim-resistant, such as *Pseudomonas* spp. Against a range of strains of the Enterobacteriaceae trimethoprim was slightly more active, although in an in vivo murine model brodimoprim had a significantly better cure rate. Brodimoprim was 2 - 4-fold more active against several strains of *Neisseria*, *Nocardia*, *Vibrio cholerae*, *Bacteroides* and other anaerobes. In particular the MIC-90 values of brodimoprim for *Clostridium* and \**Fusobacterium*\* spp were lower than those of trimethoprim.

REGISTRY NUMBERS: 738-70-5: TRIMETHOPRIM; 56518-41-3: BRODIMOPRIM;  
9002-03-3: DIHYDROFOLATE REDUCTASE

DESCRIPTORS:

MAJOR CONCEPTS: Enzymology (Biochemistry and Molecular Biophysics);  
Pharmacology; Physiology

BIOSYSTEMATIC NAMES: Bacteroidaceae--Eubacteria, Bacteria;  
Endospore-forming Gram-Positives--Eubacteria, Bacteria;  
Enterobacteriaceae--Eubacteria, Bacteria; Neisseriaceae--Eubacteria,  
Bacteria; Nocardioform Actinomycetes--Eubacteria, Bacteria;  
Vibrionaceae--Eubacteria, Bacteria

ORGANISMS: endospore-forming gram-positive rods and cocci  
(Endospore-forming Gram-Positives); *Bacteroides* (Bacteroidaceae);  
*Clostridium* (Endospore-forming Gram-Positives); Enterobacteriaceae  
(Enterobacteriaceae); \**Fusobacterium*\* (Bacteroidaceae); *Neisseria*  
(Neisseriaceae); *Nocardia* (Nocardioform Actinomycetes); Nocardioform  
actinomycetes (Nocardioform Actinomycetes); *Vibrio cholerae*  
(Vibrionaceae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria;  
microorganisms

CHEMICALS & BIOCHEMICALS: TRIMETHOPRIM; BRODIMOPRIM; DIHYDROFOLATE  
REDUCTASE

MISCELLANEOUS TERMS: ANTIBACTERIAL-DRUG; BRODIMOPRIM; DIHYDROFOLATE  
REDUCTASE; ENZYME INHIBITOR-DRUG; MINIMUM INHIBITORY CONCENTRATION;  
TRIMETHOPRIM

CONCEPT CODES:

10808 Enzymes-Physiological Studies  
22002 Pharmacology-General  
31000 Physiology and Biochemistry of Bacteria  
38504 Chemotherapy-Antibacterial Agents  
10060 Biochemical Studies-General  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids

BIOSYSTEMATIC CODES:

06507 Neisseriaceae (1992- )  
06702 Enterobacteriaceae (1992- )  
06704 Vibrionaceae (1992- )  
06901 Bacteroidaceae (1992- )  
07810 Endospore-forming Gram-Positives (1992- )  
08810 Nocardioform Actinomycetes (1992- )

11/9/11 (Item 11 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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08937255 BIOSIS NO.: 199396088756  
OXA-11, an extended-spectrum variant of OXA-10 (PSE-2) beta-lactamase from  
*Pseudomonas aeruginosa*.  
AUTHOR: Hall L M C(a); Livermore D M; Gur D; Akova M; Akalin H E

AUTHOR ADDRESS: (a)Dep. Med. Microbiology, London Hosp. Med. Coll., Turner  
Street, London E1 2AD\*UK  
JOURNAL: Antimicrobial Agents and Chemotherapy 37 (8):p1637-1644 1993  
ISSN: 0066-4804  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: *Pseudomonas aeruginosa* ABD, which was isolated in October 1991 from blood cultures of a burn patient in Turkey, was resistant to cephalosporins, particularly ceftazidime (MIC, 512  $\mu$ -g/ml), penicillins, aztreonam, and meropenem, but not to imipenem. Cephalosporin and penicillin resistance transferred to *P. aeruginosa* PU21 and was associated with a beta-lactamase with a pI of 6.4 encoded by a 100-MDa \*plasmid\* designated pMLH52. Like extended-spectrum TEM and SHV beta-lactamases, this enzyme hydrolyzed penicillins and newer cephalosporins but did not hydrolyze cefoxitin or carbapenems. However, it differed from TEM and SHV derivatives in being a potent oxacillinase, and its encoding gene did not hybridize with probes to TEM and SHV genes. To characterize the enzyme, libraries of total DNA were cloned into \*plasmid\* pUC19 and were transformed into *Escherichia coli* DH5-alpha. Recombinant \*plasmids\* that gave ceftazidime resistance all contained a 3.65-kb BamHI fragment. Deletions from this fragment allowed the beta-lactamase gene to be located on a 1.4-kb section of DNA, which contained an open reading frame of 798 bases. This encoded a protein that was deduced to differ from PSE-2 beta-lactamase only in having serine instead of asparagine at position 143 and aspartate instead of glycine at position 157. It is concluded that the resistance of isolate ABD depended on an extended-spectrum variant of the PSE-2 enzyme. The ability of this enzyme to cause ceftazidime resistance depended primarily on a low K-m for the compound; V-max remained low. It is proposed that PSE-2 should be transferred to the OXA group as OXA-10 and that the new enzyme be designated OXA-11.

REGISTRY NUMBERS: 72558-82-8: CEFTAZIDIME; 1406-05-9: PENICILLIN;  
78110-38-0: AZTREONAM; 96036-03-2: MEROPENEM

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Enzymology  
(Biochemistry and Molecular Biophysics); Genetics; Infection;  
Pharmacology

BIOSYSTEMATIC NAMES: Bacteria-General Unspecified--Eubacteria, Bacteria;  
Bacteroidaceae--Eubacteria, Bacteria; Endospore-forming Gram-Positives  
--Eubacteria, Bacteria; Gram-Positive Cocci--Eubacteria, Bacteria;  
Pseudomonadaceae--Eubacteria, Bacteria

ORGANISMS: *Bacteroides fragilis* (Bacteroidaceae); *Clostridium*  
(Endospore-forming Gram-Positives); \**Fusobacterium*\* (Bacteroidaceae);  
Gram-negative bacteria (Bacteria - General Unspecified);  
*Peptostreptococcus* (Gram-Positive Cocci); *Porphyromonas*  
(Bacteroidaceae); *Prevotella* (Bacteroidaceae); Pseudomonadaceae  
(Pseudomonadaceae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria;  
microorganisms

CHEMICALS & BIOCHEMICALS: CEFTAZIDIME; PENICILLIN; AZTREONAM; MEROPENEM

MISCELLANEOUS TERMS: ANTIBACTERIAL-DRUG; MINIMUM INHIBITORY  
CONCENTRATION

CONCEPT CODES:

10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10806 Enzymes-Chemical and Physical  
22002 Pharmacology-General  
31500 Genetics of Bacteria and Viruses  
36002 Medical and Clinical Microbiology-Bacteriology  
38504 Chemotherapy-Antibacterial Agents  
10060 Biochemical Studies-General  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10506 Biophysics-Molecular Properties and Macromolecules

BIOSYSTEMATIC CODES:

06508 Pseudomonadaceae (1992- )

11/9/12 (Item 12 from file: 5)  
DIALOG(R) File 5:Biosis Previews(R)



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08913392 BIOSIS NO.: 199396064893

Species-specific recombinant DNA probes for *Mycoplasma meleagridis*.

AUTHOR: Zhao Shaohua; Yamamoto Richard

AUTHOR ADDRESS: Dep. Epidemiol. and Preventive Med., Sch. Vet. Med., Univ.  
Calif., Davis, CA 95616\*\*USA

JOURNAL: Veterinary Microbiology 35 (1-2):p179-185 1993

ISSN: 0378-1135

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Two recombinant DNA probes (pMM-2 and pMM-13) were isolated from a *Mycoplasma meleagridis* strain 17529 genomic library prepared in \*plasmid\* pUC8, and *Escherichia coli* strain JM83. In dot blot assays, 32P-labeled pMM-13 with a DNA insert of 3.5 kbp, hybridized with 18 isolates of *M. meleagridis* but not with 16 other known species of avian mycoplasmas. Except for weaker signals on hybridization with the *M. meleagridis* cultures, pMM-2 with an DNA insert of 0.85 kbp, showed a similar reaction pattern. The minimal concentration of *M. meleagridis* strain 17529 chromosomal DNA that pMM-13 and pMM-2 detected were 1 and 8 ng, respectively. Neither probe hybridized with chromosomal DNA of *M. gallisepticum* strain S6, *M. synoviae* strain WVU-1853, or *M. iowae* strain I-695 at concentration of 256 ng.

DESCRIPTORS:

MAJOR CONCEPTS: Genetics; Infection; Pathology

BIOSYSTEMATIC NAMES: Bacteroidaceae--Eubacteria, Bacteria; Micrococcaceae

--Eubacteria, Bacteria; Mycoplasmataceae--Eubacteria, Bacteria

ORGANISMS: \*Fusobacterium\* necrophorum (Bacteroidaceae); Mycoplasmataceae (Mycoplasmataceae); *Staphylococcus aureus* (Micrococcaceae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria; microorganisms

MISCELLANEOUS TERMS: BIOVAR A; BIOVAR B; FATALITY; INFECTIVITY

ENHANCEMENT; LESION SEVERITY; LIVER LESIONS; MOUSE VIRULENCE;

VETERINARY INFECTION

CONCEPT CODES:

12504 Pathology, General and Miscellaneous-Diagnostic

31500 Genetics of Bacteria and Viruses

36002 Medical and Clinical Microbiology-Bacteriology

10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

BIOSYSTEMATIC CODES:

07512 Mycoplasmataceae (1992- )

11/9/13 (Item 13 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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07057641 BIOSIS NO.: 000089127745

CHARACTERIZATION OF THE TET M DETERMINANTS IN UROGENITAL AND RESPIRATORY BACTERIA

AUTHOR: ROBERTS M C

AUTHOR ADDRESS: DEP. PATHOBIOL., SCH. PUBLIC HEALTH COMMUNITY MED., UNIV.  
WASHINGTON, SEATTLE, WASH. 98195.

JOURNAL: ANTIMICROB AGENTS CHEMOTHER 34 (3). 1990. 476-478. 1990

FULL JOURNAL NAME: Antimicrobial Agents and Chemotherapy

CODEN: AMACC

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: Tetracycline-resistant \*Fusobacterium\* nucleatum, *Haemophilus ducreyi*, *Mycoplasma hominis*, *Peptostreptococcus* spp., *Ureaplasma urealyticum*, and *Veillonella parvula* had DNA sequences which showed homology throughout the length of the Tet M transposon, Tn916. In contrast, *Gardnerella vaginalis*, commensal *Neisseria* spp., and the 25.2-megadalton \*plasmid\* family lacked the complete transposon.

DESCRIPTORS: \*FUSOBACTERIUM\*-NUCLEATUM HAEMOPHILUS-DUCREYI  
MYCOPLASMA-HOMINIS PEPTOSTREPTOCOCCUS UREAPLASMA-UREALYTICUM

VEILLONELLA-PARVULA GARDNERELLA-VAGINALIS NEISSERIA TETRACYCLINE  
ANTIBACTERIAL-DRUG TRANSPOSON

CONCEPT CODES:

15506 Urinary System and External Secretions-Pathology  
16006 Respiratory System-Pathology  
31500 Genetics of Bacteria and Viruses  
36002 Medical and Clinical Microbiology-Bacteriology  
38504 Chemotherapy-Antibacterial Agents  
10060 Biochemical Studies-General

BIOSYSTEMATIC CODES:

04814 Gram-negative Facultatively Anaerobic Rods-Uncertain Affiliation  
(1979- )  
04910 Bacteroidaceae (1979- )  
05110 Neisseriaceae (1979- )  
05210 Veillonellaceae (1979- )  
05512 Peptococcaceae (1979- )  
09112 Mycoplasmataceae (1979- )

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

Microorganisms  
Bacteria

11/9/14 (Item 14 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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06094083 BIOSIS NO.: 000085057232

DETECTION OF \*PLASMID\* DNA IN PERIODONTOPATHIC BACTERIA

AUTHOR: SAKO K; KATO T; ONO M; ISHIHARA K; OHTA K; TAKAZOE I; OKUDA K

AUTHOR ADDRESS: DEP. MICROBIOL., TOKYO DENTAL COLL., 1-2-2 MASAGO, CHIBA,  
260 JPN.

JOURNAL: BULL TOKYO DENT COLL 28 (3). 1987. 129-136. 1987

FULL JOURNAL NAME: Bulletin of Tokyo Dental College

CODEN: BTDCA

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: A total of 217 gram-negative bacteria, including black and non-pigmented Bacteroides, \*Fusobacterium\* nucleatum, Capnocytophaga species and Haemophilus actinomycetemcomitans, mainly isolated from human oral cavities, were examined for their \*plasmid\* DNA content. \*Plasmid\* DNA was detected in 7 strains of 134 Bacteroides, 15 strains of 33 R. nucleatum, 7 strains of 14 Capnocytophaga species and 4 strains of 36 H. actinomycetemcomitans. No positive correlation was found between the \*plasmid\* DNA content and antibiotic resistance.

DESCRIPTORS: BACTEROIDES \*FUSOBACTERIUM\*-NUCLEATUM CAPNOCYTOPHAGA-SPP  
HAEMOPHILUS-ACTINOMYCETEMCOMITANS ANTIBIOTIC RESISTANCE CODING

CONCEPT CODES:

10300 Replication, Transcription, Translation  
19006 Dental and Oral Biology-Pathology  
22020 Pharmacology-Integumentary System, Dental and Oral Biology  
31000 Physiology and Biochemistry of Bacteria  
31500 Genetics of Bacteria and Viruses  
36002 Medical and Clinical Microbiology-Bacteriology  
38504 Chemotherapy-Antibacterial Agents  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

BIOSYSTEMATIC CODES:

04814 Gram-negative Facultatively Anaerobic Rods-Uncertain Affiliation  
(1979- )  
04910 Bacteroidaceae (1979- )

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

Microorganisms  
Bacteria

11/9/15 (Item 15 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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05664173 BIOSIS NO.: 000084012578

IN-VITRO ACTIVITY AND BETA LACTAMASE STABILITY OF A NEW PENEM CGP-31608  
AUTHOR: NEU H C; CHIN N-X; NEU N M  
AUTHOR ADDRESS: DEP. MED., COLL. PHYSICIANS SURG., COLUMBIA UNIV., NEW  
YORK, N.Y. 10032.

JOURNAL: ANTIMICROB AGENTS CHEMOTHER 31 (4). 1987. 558-569. 1987

FULL JOURNAL NAME: Antimicrobial Agents and Chemotherapy

CODEN: AMACC

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: The in vitro activity of CGP 31608, a new penem, against aerobic and anaerobic organisms was evaluated and compared with those of other beta-lactams. CGP 31608 inhibited *Escherichia coli*, *Klebsiella pneumoniae*, *K. oxytoca*, *Proteus mirabilis*, *Citrobacter diversus*, and *Salmonella*, *Shigella*, *Aeromonas*, and *Yersinia* spp. with MICs for 50% of the strains (MIC50S) of 2 to 4 .mu.g/ml and MIC90S of 4 .mu.g/ml, compared with cefotaxime, ceftazidime, aztreonam, and imipenem MICs of < 0.25 .mu.g/ml. MIC90S were 8 .mu.g/ml for *Enterobacter* species and *C. freudii*, for which other agents had MICs of 32 .mu.g/ml, except imipenem, which had equal activity. The MIC90 for *Proteus vulgaris*, *Morganella morganii*, *Providencia stuartii*, and *Providencia rettgeri* was 8 .mu.g/ml, compared with <2 .mu.g/ml shown by the other agents. *Acinetobacter* species resistant to other agents except imipenem were inhibited by 4 .mu.g/ml, as were *Pseudomonas aeruginosa*, including piperacillin-, ceftazidime-, and gentamicin-resistant isolates. The MIC for *P. cepacia*, *P. fluorescens*, and *P. acidovorans* was .ltoreq. 8 .mu.g/ml, but that for *P. maltophilia* was .gtoreq. 128 .mu.g/ml. Hemolytic streptococci A, B, C, G, and F were inhibited by < 1 .mu.g/ml, but the MIC for *Streptococcus faecalis* was .gtoreq. 32 .mu.g/ml. MICs for *Staphylococcus aureus* methicillin-susceptible and -resistant strains were .ltoreq. 1 .mu.g/ml, as were those for methicillin-susceptible and -resistant *S. epidermidis*. *Bacteroides fragilis* and *Clostridium* species and *Fusobacterium* spp. were inhibited by .ltoreq. 4 .mu.g/ml. CGP 31608 was not hydrolyzed by \*plasmid\* beta-lactamases TEM-1, TEM-2, SHV-1, PSE-1, OXA-2, PSE-4, or by *S. aureus*. Chromosomal beta-lactamases of type Ia in *Enterobacter cloacae* P99 and *Morganella morganii*, Ic in *P. vulgaris*, K-1 in *K. oxytoca*, and Id in *P. aeruginosa* also did not hydrolyze CGP 31608. It inhibited TEM-1, but the 50% inhibitory concentration was 14.2 .mu.g/ml compared with 0.15 .mu.g/ml for the P99 enzyme. CGP 31608 induced beta-lactamases in *P. aeruginosa*, *E. cloacae*, *C. freudii* and *Providencia rettgeri*; but there was no increase in MICs for the isolates and it did not select strains derepressed for beta-lactamase production. Synergy of CGP 31608 and gentamicin was found against 90% *P. aeruginosa*, 60% *Enterobacter cloacae*, and 50% *Serratia marcescens* strains. No synergy was found with rifampin. A postantibiotic effect was found against *E. coli*.

DESCRIPTORS: CEFOTAXIME CEFTAZIDIME AZTREONAM IMIPENEM METHICILLIN  
GENTAMICIN RIFAMPIN ANTIBACTERIAL-DRUG ANTIBIOTICS

CONCEPT CODES:

36002 Medical and Clinical Microbiology-Bacteriology  
38504 Chemotherapy-Antibacterial Agents  
10060 Biochemical Studies-General  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10068 Biochemical Studies-Carbohydrates  
10808 Enzymes-Physiological Studies  
31000 Physiology and Biochemistry of Bacteria  
31500 Genetics of Bacteria and Viruses  
32600 In Vitro Studies, Cellular and Subcellular

11/9/16 (Item 16 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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05558305 BIOSIS NO.: 000083031445

IN-VITRO ACTIVITY AND BETA LACTAMASE STABILITY OF A NEW DIFLUORO OXACEPHEM  
6315-S

AUTHOR: NEU H C; CHIN N-X

AUTHOR ADDRESS: DEP. OF MED., COLL. OF PHYSICIANS AND SURGEONS, COLUMBIA  
UNIV., NEW YORK, NY 10032.

JOURNAL: ANTIMICROB AGENTS CHEMOTHER 30 (5). 1986. 638-644. 1986

FULL JOURNAL NAME: Antimicrobial Agents and Chemotherapy  
CODEN: AMACC  
RECORD TYPE: Abstract  
LANGUAGE: ENGLISH

ABSTRACT: 6315-S, a novel difluoromethyl thioacetamido oxacephem, had in vitro activity comparable to that of cefotaxime and moxalactam against *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus mirabilis*, *Klebsiella oxytoca*, *Citrobacter diversus*, *Salmonella* spp., and *Shigella* spp., inhibiting 90% at  $\text{ltoreq. } 0.25 \text{ .mu.g/ml}$ . It inhibited piperacillin- and cefoperazone-resistant isolates in these species. 6315-S did not inhibit cefotaxime- or moxalactam-resistant *Citrobacter freundii*, *Enterobacter aerogenes*, or *Enterobacter cloacae* (MICs for 90% of the strains tested were  $\text{gtoreq. } 16 \text{ .mu.g/ml}$ ). *Proteus vulgaris* resistant to cefotaxime was inhibited. *Pseudomonas* species and *Acinetobacter* species were resistant (MICs  $> 64 \text{ .mu.g/ml}$ ) MICs for 90% of the *Staphylococcus aureus* and *S. epidermidis* isolates were  $4 \text{ .mu.g/ml}$ . 6315-S was highly active against anaerobic species of *Clostridium*, *\*Fusobacterium\**, *Bacteroides*, and peptostreptococci and was superior to other agents against these organisms. 6315-s was not hydrolyzed by the major *\*plasmid\** and chromosomal beta-lactamases, but it induced chromosomal beta-lactamases in *Enterobacter cloacae* and *Pseudomonas aeruginosa*.

DESCRIPTORS: 7-BETA  
DIFLUOROMETHYLTHIOACETAMIDO-7-ALPHA-METHOXY-3-1-HYDROETHYL-1H-TETRAZOL-5-YL  
THIOMETHYL-1-OXA-3-CEPHEM-4-CARBOXYLIC ACID ANTIBACTERIAL-DRUG ANTIBIOTICS  
CONCEPT CODES:

22002 Pharmacology-General  
36002 Medical and Clinical Microbiology-Bacteriology  
38504 Chemotherapy-Antibacterial Agents  
10060 Biochemical Studies-General  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10808 Enzymes-Physiological Studies  
31000 Physiology and Biochemistry of Bacteria  
31500 Genetics of Bacteria and Viruses  
32600 In Vitro Studies, Cellular and Subcellular

11/9/17 (Item 17 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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04488838 BIOSIS NO.: 000029011875  
\*PLASMID\* IN \*FUSOBACTERIUM\*-NECROPHORUM  
AUTHOR: NAKAMURA K; HARASAWA R; SHINJO T  
AUTHOR ADDRESS: DEP. VET. MICROBIOL., FAC. AGRIC., MIYAZAKI UNIV., 7710  
KUMANO, MIYAZAKI 889-21, JPN.  
JOURNAL: JPN J VET SCI 47 (2). 1985. 313-316. 1985  
FULL JOURNAL NAME: Japanese Journal of Veterinary Science  
CODEN: NJUZA  
RECORD TYPE: Citation  
LANGUAGE: ENGLISH  
DESCRIPTORS: PATHOGENICITY DNA ELECTROPHORESIS  
CONCEPT CODES:

31000 Physiology and Biochemistry of Bacteria  
31500 Genetics of Bacteria and Viruses  
36002 Medical and Clinical Microbiology-Bacteriology  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10504 Biophysics-General Biophysical Techniques

BIOSYSTEMATIC CODES:  
04910 Bacteroidaceae (1979- )  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):  
Microorganisms  
Bacteria

11/9/18 (Item 18 from file: 5)  
DIALOG(R)File 5: Biosis Previews(R)  
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03646210 BIOSIS NO.: 000074061787

\*PLASMID\* CONTENT OF SOME ORAL MICROORGANISMS ISOLATED FROM SUBGINGIVAL  
PLAQUE  
AUTHOR: VANDENBERGH P A; SYED S A; GONZALEZ C F; LOESCHE W J; OLSEN R H  
AUTHOR ADDRESS: MICROLIFE GENET., POB 2339, 1817-57TH ST., SARASOTA, FLA.  
33578.  
JOURNAL: J DENT RES 6 (3). 1982. 497-501. 1982  
FULL JOURNAL NAME: Journal of Dental Research  
CODEN: JDREA  
RECORD TYPE: Abstract  
LANGUAGE: ENGLISH

ABSTRACT: Eight-five strains of bacterial species selected from the predominant cultivable dental plaque flora of patients with different periodontal pathologies were examined for their \*plasmid\* content. *Actinomyces viscosus*, *A. odontolyticus*, *Bacteroides melaninogenicus* ssp. *asaccharolyticus*, *B. melaninogenicus* ssp. *intermedius*, *B. melaninogenicus* ssp. *melaninogenicus*, *B. ochraceus* and \**Fusobacterium*\* *nucleatum* were studied. Three *B. melaninogenicus* isolates showed \*plasmids\* of .apprx. 2.7-2.9 Mdalton molecular size. Restriction enzyme digests of the \*plasmids\* demonstrated dissimilar patterns when electrophoresed on agarose gels. In other bacteria, including *Actinomyces* ssp., \*plasmids\* were not observed.

DESCRIPTORS: HUMAN ACTINOMYCES-VISCOSUS ACTINOMYCES-ODONTOLYTICUS  
BACTEROIDES-MELANINOGENICUS-SSP-ASACCHAROLYTICUS  
BACTEROIDES-MELANINOGENICUS-SSP-INTERMEDIUS  
BACTEROIDES-MELANINOGENICUS-SSP-MELANINOGENICUS BACTEROIDES-OCCHRACEUS  
\*FUSOBACTERIUM\*-NUCLEATUM MOLECULAR SIZE RESTRICTION ENZYME ELECTROPHORESIS  
CONCEPT CODES:

10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10506 Biophysics-Molecular Properties and Macromolecules  
19006 Dental and Oral Biology-Pathology  
31000 Physiology and Biochemistry of Bacteria  
36002 Medical and Clinical Microbiology-Bacteriology  
10056 Biochemical Methods-Lipids  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10068 Biochemical Studies-Carbohydrates  
10504 Biophysics-General Biophysical Techniques  
10804 Enzymes-Methods  
12100 Movement (1971- )  
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph  
Studies  
19001 Dental and Oral Biology-General; Methods  
31500 Genetics of Bacteria and Viruses  
32000 Microbiological Apparatus, Methods and Media

BIOSYSTEMATIC CODES:  
04910 Bacteroidaceae (1979- )  
05810 Actinomycetaceae (1979- )  
86215 Hominidae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

Microorganisms  
Bacteria  
Animals  
Chordates  
Vertebrates  
Mammals  
Primates  
Humans

11/9/19 (Item 19 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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02826840 BIOSIS NO.: 000018059960  
NOVEL \*PLASMIDS\* FROM ORAL BACTERIA ASSOCIATED WITH PERIODONTAL DISEASE  
AUTHOR: VANDENBEGH P A; GONZALEZ C F; SYED S A; LOESCHE W J; OLSEN R H  
AUTHOR ADDRESS: UNIV. MICH. MED. SCH., ANN ARBOR, MICH. 48109, USA.  
JOURNAL: 80TH ANNUAL MEETING, MIAMI BEACH, FLA., USA, MAY 11-16, 1980.  
ABSTR ANNU MEET AM SOC MICROBIOL 80 (0). 1980. ABSTRACT 388. 1980  
CODEN: ASMAC

DOCUMENT TYPE: Meeting  
RECORD TYPE: Citation  
LANGUAGE: ENGLISH  
DESCRIPTORS: ABSTRACT HUMAN DENTAL PLAQUE ACTINOMYCES-SPP BACTEROIDES-SPP  
\*FUSOBACTERIUM\*-NUCLEATUM DNA

CONCEPT CODES:

10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10506 Biophysics-Molecular Properties and Macromolecules  
19006 Dental and Oral Biology-Pathology  
31000 Physiology and Biochemistry of Bacteria  
36002 Medical and Clinical Microbiology-Bacteriology  
00520 General Biology-Symposia, Transactions and Proceedings of  
Conferences, Congresses, Review Annuals  
10010 Comparative Biochemistry, General  
10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines  
30500 Morphology and Cytology of Bacteria  
32000 Microbiological Apparatus, Methods and Media

BIOSYSTEMATIC CODES:

04910 Bacteroidaceae (1979- )  
05810 Actinomycetaceae (1979- )  
86215 Hominidae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

Microorganisms  
Bacteria  
Animals  
Chordates  
Vertebrates  
Mammals  
Primates  
Humans

11/9/20 (Item 1 from file: 434)

DIALOG(R)File 434:SciSearch(R) Cited Ref Sci

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07921913 Genuine Article#: G2068 Number of References: 30  
Title: INTERGENERIC PROTOPLAST FUSION BETWEEN \*FUSOBACTERIUM\*-VARIUM AND  
ENTEROCOCCUS-FAECIUM FOR ENHANCING DEHYDRODIVANILLIN DEGRADATION  
Author(s): CHEN W; OHMIYA K; SHIMIZU S  
Corporate Source: NAGOYA UNIV,SCH AGR,DEPT FOOD SCI & TECHNOL,CHIKUSA  
KU/NAGOYA/AICHI 464/JAPAN/  
Journal: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, 1987, V53, N3, P542-548  
Language: ENGLISH Document Type: ARTICLE  
Geographic Location: JAPAN  
Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences; CC AGRI--  
Current Contents, Agriculture, Biology & Environmental Sciences  
Journal Subject Category: MICROBIOLOGY  
Research Fronts: 86-1382 003 (HEMAGGLUTININ NEURAMINIDASE GENE OF  
NEWCASTLE-DISEASE VIRUS; NUCLEOTIDE-SEQUENCE ANALYSIS; TRANSCRIPTION OF  
GENES; CDNA CLONE)  
86-1657 001 (AMINOGLYCOSIDE PHOSPHOTRANSFERASE GENE; RECOMBINANT  
\*PLASMID\* VECTORS; EXPRESSION IN STREPTOMYCES-LIVIDANS; ANTIBIOTIC  
PRODUCING MICROORGANISMS)

Cited References:

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FLEISCHER ER, 1985, V131, P919, J GEN MICROBIOL  
FODOR K, 1976, V73, P2147, P NATL ACAD SCI USA  
GASSON MJ, 1980, V9, P99, FEMS MICROBIOL LETT  
HEALY JB, 1980, V39, P436, APPL ENVIRON MICROB  
HOLDEMAN LV, 1977, P23, ANAEROBE LABORATORY  
HOPWOOD DA, 1981, V35, P237, ANNU REV MICROBIOL  
HOTCHKISS RD, 1980, V77, P3553, P NAT ACAD SCI US-B  
JONES DT, 1985, V131, P1213, J GEN MICROBIOL  
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OCHI K, 1979, V139, P984, J BACTERIOL  
OH YK, 1980, V21, P219, DEV IND MICROBIOL

OKAMOTO T, 1983, V47, P2675, AGR BIOL CHEM TOKYO  
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 PEBERDY JF, 1980, V2, P23, ENZYME MICROB TECH  
 PETTEY TM, 1984, V47, P439, APPL ENV MICROBIOL  
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 SAITO H, 1963, V72, P619, BIOCHIM BIOPHYS ACTA  
 SANCHEZRIVAS C, 1982, V188, P272, MOL GEN GENET  
 SCHAEFFER P, 1976, V73, P2125, P NATL ACAD SCI US  
 SMITH MD, 1985, V162, P92, J BACTERIOL  
 SOUTHERN E, 1979, V68, P152, METHOD ENZYMOL  
 SOUTHERN EM, 1975, V98, P503, J MOL BIOLOGY  
 TAYA M, 1979, V57, P178, J FERMENT TECHNOL  
 TOYAMA H, 1984, V47, P363, APPL ENVIRON MICROB  
 WAITKINS SA, 1981, V38, P35, MED LAB SCI

11/9/21 (Item 2 from file: 434)  
 DIALOG(R)File 434:SciSearch(R) Cited Ref Sci  
 (c) 1998 Inst for Sci Info. All rts. reserv.

07568945 Genuine Article#: E3054 Number of References: 27  
 Title: PROTOPLAST FORMATION AND REGENERATION OF DEHYDRODIVANILLIN-DEGRADING  
 STRAINS OF \*FUSOBACTERIUM\*-VARIUM AND ENTEROCOCCUS-FAECIUM  
 Author(s): CHEN W; OHMIYA K; SHIMIZU S  
 Corporate Source: NAGOYA UNIV,SCH AGR,DEPT FOOD SCI & TECHNOL/NAGOYA/AICHI  
 464/JAPAN/  
 Journal: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, 1986, V52, N4, P612-616  
 Language: ENGLISH Document Type: ARTICLE  
 Geographic Location: JAPAN  
 Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences; CC AGRI--  
 Current Contents, Agriculture, Biology & Environmental Sciences  
 Journal Subject Category: MICROBIOLOGY  
 Research Fronts: 86-1168 001 (ELECTROFUSION OF YEAST PROTOPLASTS; TOBACCO  
 MOSAIC-VIRUS RNA; FUSION OF PLANT-PROTOPLASTS; ELECTRIC FIELD-MEDIATED  
 CELL-FUSION; STABLE TRANSFORMATION)  
 86-1657 001 (AMINOGLYCOSIDE PHOSPHOTRANSFERASE GENE; RECOMBINANT  
 \*PLASMID\* VECTORS; EXPRESSION IN STREPTOMYCES-LIVIDANS; ANTIBIOTIC  
 PRODUCING MICROORGANISMS)

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 FODOR K, 1976, V73, P2147, P NATL ACAD SCI USA  
 GASSON MJ, 1980, V9, P99, FEMS MICROBIOL LETT  
 GOLD MH, 1983, V46, P260, APPL ENVIRON MICROB  
 HOLDEMAN LV, 1977, P23, ANAEROBE LABORATORY  
 HOPWOOD DA, 1981, V35, P237, ANNU REV MICROBIOL  
 KANEKO H, 1979, V43, P1007, AGR BIOL CHEM TOKYO  
 KAO KN, 1974, V115, P355, PLANTA  
 KNOWLTON S, 1984, V48, P1246, APPL ENVIRON MICROB  
 LEEWICKNER LJ, 1984, V48, P994, APPL ENVIRON MICROB  
 METCALF RH, 1969, V99, P674, J BACTERIOL  
 MINTON NP, 1983, V155, P432, J BACTERIOL  
 OGATA S, 1984, V30, P305, J GEN APPL MICROBIOL  
 OH YK, 1980, V21, P219, DEV IND MICROBIOL  
 OHMIYA K, 1983, V61, P25, J FERMENT TECHNOL  
 OKAMOTO T, 1983, V47, P259, AGR BIOL CHEM TOKYO  
 OKANISHI M, 1974, V80, P389, J GEN MICROBIOL  
 PEBERDY JF, 1980, V2, P23, ENZYME MICROB TECH  
 PETTEY TM, 1984, V47, P439, APPL ENV MICROBIOL  
 PICATAGGIO SK, 1983, V17, P121, EUR J APPL  
 POWER JB, 1970, V275, P1016, NATURE  
 SMITH MD, 1985, V162, P92, J BACTERIOL  
 TANAKA N, 1984, V195, P378, MOL GEN GENET  
 TAYA M, 1983, V61, P197, J FERMENT TECHNOL  
 WEISS RL, 1976, V128, P668, J BACTERIOL

11/9/22 (Item 1 from file: 155)  
 DIALOG(R)File 155:MEDLINE(R)

10483664 20115567 PMID: 10648549

Native \*plasmids\* of \*Fusobacterium\* nucleatum: characterization and use in development of genetic systems.

Haake SK; Yoder SC; Attarian G; Podkaminer K

Divisions of Associated Clinical Sciences, UCLA School of Dentistry, Los Angeles, California 90095-1668, USA. shaake@dent.ucla.edu

Journal of bacteriology (UNITED STATES) Feb 2000, 182 (4) p1176-80, ISSN 0021-9193 Journal Code: HH3

Contract/Grant No.: DE12639, DE, NIDCR

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Subfile: INDEX MEDICUS

Three native \*plasmids\* of \*Fusobacterium\* nucleatum were characterized, including DNA sequence analysis of one \*plasmid\*, pFN1. A shuttle \*plasmid\*, pHS17, capable of transforming *Escherichia coli* and *F. nucleatum* ATCC 10953 was constructed with pFN1. pHS17 was stably maintained in the *F. nucleatum* transformants, and differences in the transformation efficiencies suggested the presence of a restriction-modification system in *F. nucleatum*.

Tags: Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: \*Fusobacterium\* nucleatum--genetics--GE; \*\*Plasmids\*--genetics--GE; \*Transformation, Bacterial; Amino Acid Sequence; DNA, Bacterial--analysis--AN; Endodeoxyribonucleases--chemistry--CH; *Escherichia coli*--genetics--GE; \*Fusobacterium\* nucleatum--enzymology--EN; Molecular Sequence Data; Sequence Analysis, DNA

Molecular Sequence Databank No.: GENBANK/AF159249; GENBANK/AF219231

CAS Registry No.: 0 (DNA, Bacterial); 0 (Plasmids)

Enzyme No.: EC 2.7.7.- (DNA relaxase); EC 3.1.- (Endodeoxyribonucleases)

Record Date Created: 20000223

11/9/23 (Item 2 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

09822318 98348445 PMID: 9683480

Dentilisin activity affects the organization of the outer sheath of *Treponema denticola*.

Ishihara K; Kuramitsu HK; Miura T; Okuda K

Department of Microbiology, Oral Health Science Center, Tokyo Dental College, 1-2-2 Masago, Mihama-ku, Chiba 261-8502, Japan. ishihara@tdc.ac.jp

Journal of bacteriology (UNITED STATES) Aug 1998, 180 (15) p3837-44, ISSN 0021-9193 Journal Code: HH3

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Subfile: INDEX MEDICUS

Prolyl-phenylalanine-specific serine protease (dentilisin) is a major extracellular protease produced by *Treponema denticola*. The gene, prtP, coding for the protease was recently cloned and sequenced (K. Ishihara, T. Miura, H. K. Kuramitsu, and K. Okuda, *Infect. Immun.* 64:5178-5186, 1996). In order to determine the role of this protease in the physiology and virulence of *T. denticola*, a dentilisin-deficient mutant, K1, was constructed following electroporation with a prtP-inactivated DNA fragment. No chymotrypsin-like protease activity was detected in the dentilisin-deficient mutant. In addition, the high-molecular-mass oligomeric protein characteristic of the outer sheath of the organism decreased in the mutant. Furthermore, the hydrophobicity of the mutant was decreased, and coaggregation of the mutant with \*Fusobacterium\* nucleatum was enhanced compared to that of the wild-type organism. The results obtained with a mouse abscess model system indicated that the virulence of the mutant was attenuated relative to that of the wild-type organism. These results suggest that dentilisin activity plays a major role in the structural organization of the outer sheath of *T. denticola*. The loss of dentilisin activity and the structural change in the outer sheath affect the pathogenicity of *T. denticola*.

Tags: Animal; Support, Non-U.S. Gov't

Descriptors: \*Cell Membrane--ultrastructure--UL; \*Chymotrypsin--metabolism--ME; \*Treponema--physiology--PH; Cell Membrane--physiology--PH; Chymotrypsin--genetics--GE; Chymotrypsin--isolation and purification--IP



; Cloning, Molecular; Electrophoresis, Polyacrylamide Gel; Escherichia coli  
--genetics--GE; \*Fusobacterium\*--genetics--GE; Immunoblotting; Mice;  
Periodontal Abscess--microbiology--MI; Periodontal Abscess--physiopatholog  
y--PP; \*Plasmids\*; Polymerase Chain Reaction; Porphyromonas gingivalis  
--genetics--GE; Recombinant Proteins--biosynthesis--BI; Recombinant  
Proteins--isolation and purification--IP; Recombinant Proteins--metabolism  
--ME; Treponema--enzymology--EN; Treponema--genetics--GE; Treponema  
--pathogenicity--PY; Treponemal Infections--physiopathology--PP; Virulence  
CAS Registry No.: 0 (Plasmids); 0 (Recombinant Proteins)  
Enzyme No.: EC 3.4.21.- (denticisin); EC 3.4.21.1 (Chymotrypsin)  
Record Date Created: 19980820

11/9/24 (Item 3 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)

08154512 94204589 PMID: 8153579  
Similarities between \*Fusobacterium\* nucleatum and bacteroides fragilis  
studied by two DNA probes derived from \*Fusobacterium\* nucleatum.  
Bolstad AI; Kleivdal H; Jensen HB  
Department of Biochemistry and Molecular Biology, University of Bergen,  
Norway.  
Scandinavian journal of dental research (DENMARK) Feb 1994, 102 (1)  
p5-9, ISSN 0029-845X Journal Code: UCQ  
Languages: ENGLISH  
Document type: Journal Article  
Record type: Completed  
Subfile: DENTAL; INDEX MEDICUS  
A polymerase chain reaction (PCR)-amplified oligonucleotide DNA probe  
corresponding to a \*Fusobacterium\* nucleatum Fv1 DNA region coding for a  
40-kDa major outer-membrane protein (OMP) and a randomly cloned 2.1 kb DNA  
probe were found to recognize DNA from the Gram-negative bacteria  
\*Fusobacterium\* nucleatum and Bacteroides fragilis on Southern blots and  
slot blots. The results indicate sequence similarity within the DNA  
fragments studied. Immunoblots tested with polyclonal antibodies against  
whole cells of F. nucleatum revealed only weak antigen similarity between  
these species.  
Tags: Comparative Study; Support, Non-U.S. Gov't  
Descriptors: Bacteroides fragilis--classification--CL; \*DNA Probes; \*  
\*Fusobacterium\* nucleatum--classification--CL; Actinobacillus actinomycetem  
comitans--genetics--GE; Actinobacillus actinomycetemcomitans--immunology  
--IM; Bacterial Outer Membrane Proteins--analysis--AN; Bacteroides fragilis  
--genetics--GE; Bacteroides fragilis--immunology--IM; Blotting, Southern;  
Electrophoresis, Agar Gel; Electrophoresis, Polyacrylamide Gel;  
\*Fusobacterium\* nucleatum--genetics--GE; \*Fusobacterium\* nucleatum  
--immunology--IM; Immunoblotting; Oligonucleotide Probes; \*Plasmids\*  
--genetics--GE; Polymerase Chain Reaction  
CAS Registry No.: 0 (Bacterial Outer Membrane Proteins); 0 (DNA  
Probes); 0 (Oligonucleotide Probes); 0 (Plasmids)  
Record Date Created: 19940509

11/9/25 (Item 4 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)

07220020 90225757 PMID: 2327774  
Genetic basis of tetracycline resistance in urogenital bacteria.  
Roberts MC; Hillier SL  
Department of Pathobiology, University of Washington, Seattle 98195.  
Antimicrobial agents and chemotherapy (UNITED STATES) Feb 1990, 34  
(2) p261-4, ISSN 0066-4804 Journal Code: 6HK  
Contract/Grant No.: AI24136, AI, NIAID  
Languages: ENGLISH  
Document type: Journal Article  
Record type: Completed  
Subfile: INDEX MEDICUS  
The distributions of the nucleotide sequences related to the tetracycline  
resistance determinants Tet K, Tet L, Tet M, and Tet O were studied by dot  
blot hybridization with randomly chosen clinical urogenital tract isolates  
of viridans group streptococci, Streptococcus agalactiae, Enterococcus  
faecalis, Gardnerella vaginalis, Lactobacillus spp., \*Fusobacterium\*

nucleatum, *Peptostreptococcus* spp., and *Veillonella parvula*. Among the *Peptostreptococcus* spp., 79% of the isolates hybridized with one (64%) or more (36%) of the probes for Tet K (27%), Tet L (30%), Tet M (75%) and Tet O (13%). Of the viridans group streptococci, 82% of the strains hybridized with one (34%) or more (66%) of the four probes. The distribution of the four determinants in this group was as follows: Tet K, 36%; Tet L, 31%; Tet M, 43%; Tet O, 61%. Twenty-nine percent of the enterococci and forty-six percent of the group B streptococci hybridized with the probes; however, the Tet K, Tet L, and Tet O determinants were found in only a few strains, while the Tet M determinant predominated. A total of 29% of the *F. nucleatum* isolates, 55% of the *G. vaginalis* isolates, and 26% of the *V. parvula* isolates hybridized with the Tet M determinant. In contrast, 43% of the *Lactobacillus* spp. hybridized with the Tet O determinant. The data indicate that tetracycline resistance determinants are common to many of the microorganisms isolated from the urogenital tract.

Tags: Human; Support, U.S. Gov't, P.H.S.

Descriptors: \*Bacteria--genetics--GE; \*Tetracycline Resistance--genetics--GE; \*Urogenital System--microbiology--MI; Bacteria--drug effects--DE; DNA Probes; DNA, Bacterial--analysis--AN; Nucleic Acid Hybridization; *Peptostreptococcus*--drug effects--DE; *Peptostreptococcus*--genetics--GE; \*Plasmids\*; Restriction Mapping

CAS Registry No.: 0 (DNA Probes); 0 (DNA, Bacterial); 0 (Plasmids)  
Record Date Created: 19900516

11/9/26 (Item 5 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)

05929827 89252894 PMID: 3074019

Cloning the *Fnu*DI, *Nae*I, *Nco*I and *Xba*I restriction-modification systems.

Van Cott EM; Wilson GG

New England Biolabs, Inc., Beverly, MA 01915.

Gene (NETHERLANDS) Dec 25 1988, 74 (1) p55-9, ISSN 0378-1119

Journal Code: FOP

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Subfile: INDEX MEDICUS

Methyltransferase genes from the *Fnu*DI, *Nae*I, *Nco*I, and *Xba*I restriction-modification systems have been isolated in *Escherichia coli* by 'shot-gun' cloning bacterial DNA fragments into \*plasmid\* vectors and selecting for protectively modified molecules that resist digestion by the corresponding restriction endonuclease.

Descriptors: Deoxyribonucleases, Type II Site-Specific--genetics--GE; \**Fusobacterium*--genetics--GE; \*Genes, Bacterial; \**Nocardia*--genetics--GE; \*Site-Specific DNA Methyltransferase (Cytosine-Specific)--genetics--GE; \*Site-Specific DNA-Methyltransferase (Adenine-Specific)--genetics--GE; \**Xanthomonas*--genetics--GE; Cloning, Molecular; *Escherichia coli*--genetics--GE; \**Fusobacterium*--enzymology--EN; Genes, Structural; *Nocardia*--enzymology--EN; Recombinant Proteins--genetics--GE; *Xanthomonas*--enzymology--EN

CAS Registry No.: 0 (Recombinant Proteins)

Enzyme No.: EC 2.1.1.- (DNA modification methylase BspI); EC 2.1.1.- (DNA modification methylase *Nae*I); EC 2.1.1.- (DNA modification methylase *Nco*I); EC 2.1.1.- (DNA modification methylase *Xba*I); EC 2.1.1.72 (Site-Specific DNA-Methyltransferase (Adenine-Specific)); EC 2.1.1.73 (Site-Specific DNA Methyltransferase (Cytosine-Specific)); EC 3.1.21.- (endodeoxyribonuclease *Hae*III); EC 3.1.21.- (endodeoxyribonuclease *XBA*I); EC 3.1.21.4 (Deoxyribonucleases, Type II Site-Specific)

Record Date Created: 19890626

11/9/27 (Item 6 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)

05427563 90075642 PMID: 2686914

Mechanisms of resistance in anaerobes and new developments in testing.

Finegold SM

Research Service, Wadsworth VA Medical Center, Los Angeles, CA 90073.

Diagnostic microbiology and infectious disease (UNITED STATES) Jul-Aug 1989, 12 (4 Suppl) p117S-120S, ISSN 0732-8893 Journal Code: DMI

Languages: ENGLISH

Document type: Journal Article; Review; Review, Tutorial

Record type: Completed

Subfile: INDEX MEDICUS

Anaerobic bacteria currently demonstrate increased resistance to antimicrobial agents, primarily by the production of beta-lactamase. A number of species of Bacteroides, most notably those in the Bacteroides fragilis group, produce these enzymes. A few species of \*Fusobacterium\* and Clostridium produce beta-lactamase as well. Fortunately, this mechanism of resistance is readily overcome by administering beta-lactamase inhibitors coupled with a beta-lactam antibiotic that would otherwise be inactivated. Other types of resistance encountered in anaerobic bacteria include inactivating enzymes such as chloramphenicol acetyltransferase, \*plasmid\*-mediated transferable multiple-drug resistance, changes in porin molecules in the outer membrane of the bacterial cell, decreased uptake of drug by other mechanisms, changes in the target organs such as penicillin-binding proteins, and decreased reduction of the antibiotic to an active intermediate product. In many institutions, certain drugs such as cefoxitin, clindamycin, and piperacillin, which were previously active against almost all strains of B. fragilis, are now effective against only 70 to 85% of this group of anaerobes. Drugs with essentially 100% activity against most anaerobic bacteria include chloramphenicol, imipenem, metronidazole, and the combinations of a beta-lactam antibiotic plus a beta-lactamase inhibitor such as ampicillin plus sulbactam and amoxicillin or ticarcillin combined with sodium clavulanate. This paper also discusses the indications for antimicrobial susceptibility testing of anaerobes as well as problems encountered with testing techniques that are currently being used. (28 Refs.)

Tags: Human

Descriptors: \*Bacteria, Anaerobic--drug effects--DE; \*Drug Resistance, Microbial; \*Microbial Sensitivity Tests; Bacteria, Anaerobic--genetics--GE; Bacterial Infections--drug therapy--DT; Bacteroides--drug effects--DE; Bacteroides--genetics--GE; Drug Resistance, Microbial--genetics--GE; Drug Resistance, Microbial--physiology--PH

Record Date Created: 19900117

11/9/28 (Item 7 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

03767880 83119256 PMID: 6760336

Antibiotic resistance in anaerobic bacteria: molecular biology and clinical aspects.

Bawdon RE; Crane LR; Palchaudhuri S

Reviews of infectious diseases (UNITED STATES) Nov-Dec 1982, 4 (6)  
p1075-95, ISSN 0162-0886 Journal Code: SXN

Languages: ENGLISH

Document type: Journal Article; Review

Record type: Completed

Subfile: INDEX MEDICUS

The patterns of antibiotic susceptibility among anaerobes isolated in the United States during the past 14 years were reviewed. Resistance to the tetracyclines, the penicillins, clindamycin, and other antibiotics has emerged among strains of Bacteroides, Clostridium, and anaerobic cocci. Genetic transfer of antibiotic resistance has been documented in anaerobic environments. Inter- and intrageneric transfer by conjugation and transformation has been described. \*Plasmids\* have been identified in anaerobes, and conjugal transfer of antibiotic resistance has been reported. The biochemical mechanisms of antibiotic resistance in anaerobes are similar to those described for aerobes. There are some differences in drug transport and inhibitory actions. Antibiotic resistant anaerobes have been isolated from patients participating in large comparative studies of anaerobic infections involving abdominal, pelvic, and pleuropulmonary sites, but instances in which treatment has failed as a result of resistance have not been found. Reports describing small numbers of patients or individual cases have documented the failure of therapy in clinical and laboratory infections caused by both sensitive or resistant anaerobic bacteria. Patterns of antibiotic susceptibility among clinically important anaerobes need to be monitored periodically in several geographic regions. (159 Refs.)

Tags: Animal; Human; Support, Non-U.S..Gov't

Descriptors: \*Gram-Negative Anaerobic Bacteria--growth and development  
--GD; \*Peptostreptococcus--growth and development--GD; Abdomen; Abscess  
--drug therapy--DT; Bacteroides--enzymology--EN; Bacteroides--genetics--GE  
; Bacteroides--growth and development--GD; Bacteroides Infections--drug  
therapy--DT; Carbenicillin--pharmacology--PD; Cephalosporins--pharmacology  
--PD; Clindamycin--pharmacology--PD; Clostridium--enzymology--EN; Clostrid  
ium--growth and development--GD; \*Fusobacterium\*--growth and development  
--GD; Genes, Bacterial--drug effects--DE; Mice; Nitroimidazoles  
--pharmacology--PD; Penicillin G--pharmacology--PD; Penicillin Resistance;  
\*Plasmids\*--drug effects--DE; Pleuropneumonia--drug therapy--DT; Rats;  
Tetracycline--pharmacology--PD; beta-Lactamases--metabolism--ME

CAS Registry No.: 0 (Cephalosporins); 0 (Nitroimidazoles); 0  
(Plasmids); 18323-44-9 (Clindamycin); 4697-36-3 (Carbenicillin);  
60-54-8 (Tetracycline); 61-33-6 (Penicillin G)  
Enzyme No.: EC 3.5.2.6 (beta-Lactamases)

Record Date Created: 19830311

?s fusobacterium and shuttle

6050 FUSOBACTERIUM

12801 SHUTTLE

S12 5 FUSOBACTERIUM AND SHUTTLE

?rd

...completed examining records

S13 4 RD (unique items)

?s s13 and coli

4 S13

504931 COLI

S14 4 S13 AND COLI

?t/9/all

14/9/1 (Item 1 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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12360222 BIOSIS NO.: 200000113724

Native plasmids of \*Fusobacterium\* nucleatum: Characterization and use in  
development of genetic systems.

AUTHOR: Kinder Haake Susan(a); Yoder Sean C; Attarian Gwynne; Podkaminer  
Kara

AUTHOR ADDRESS: (a)Section of Periodontics, UCLA School of Dentistry, 10833  
Le Conte Ave., Los Angeles, CA, 90095-1668\*USA

JOURNAL: Journal of Bacteriology 182 (4):p1176-1180 Feb., 2000

ISSN: 0021-9193

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

ABSTRACT: Three native plasmids of \*Fusobacterium\* nucleatum were  
characterized, including DNA sequence analysis of one plasmid, pFN1. A  
\*shuttle\* plasmid, pHS17, capable of transforming Escherichia \*coli\* and  
F. nucleatum ATCC 10953 was constructed with pFN1. pHS17 was stably  
maintained in the F. nucleatum transformants, and differences in the  
transformation efficiencies suggested the presence of a  
restriction-modification system in F. nucleatum.

#### DESCRIPTORS:

MAJOR CONCEPTS: Molecular Genetics (Biochemistry and Molecular  
Biophysics)

BIOSYSTEMATIC NAMES: Bacteroidaceae--Anaerobic Gram-Negative Rods,  
Eubacteria, Bacteria, Microorganisms; Enterobacteriaceae--Facultatively  
Anaerobic Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms

ORGANISMS: Escherichia \*coli\* (Enterobacteriaceae); \*Fusobacterium\*  
nucleatum (Bacteroidaceae)--strain-ATCC 10953

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Bacteria; Eubacteria;  
Microorganisms

CHEMICALS & BIOCHEMICALS: pFN1--\*Fusobacterium\* nucleatum native  
plasmid, characterization, \*shuttle\* plasmid; pFN1. pHS17

METHODS & EQUIPMENT: DNA sequence analysis--analytical method, molecular  
genetic method

MISCELLANEOUS TERMS: restriction-modification system

CONCEPT CODES:

31500 Genetics of Bacteria and Viruses  
10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
32000 Microbiological Apparatus, Methods and Media  
10506 Biophysics-Molecular Properties and Macromolecules  
31000 Physiology and Biochemistry of Bacteria

BIOSYSTEMATIC CODES:

06702 Enterobacteriaceae (1992- )  
06901 Bacteroidaceae (1992- )

14/9/2 (Item 2 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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12030651 BIOSIS NO.: 199900311170

Transformation of \*Fusobacterium\* nucleatum by electroporation.

AUTHOR: Haake S Kinder(a); Yoder S C(a)

AUTHOR ADDRESS: (a)School of Dentistry, UCLA, Los Angeles, CA\*\*USA

JOURNAL: Abstracts of the General Meeting of the American Society for Microbiology 99p331 1999

CONFERENCE/MEETING: 99th General Meeting of the American Society for Microbiology Chicago, Illinois, USA May 30-June 3, 1999

SPONSOR: American Society for Microbiology

ISSN: 1060-2011

RECORD TYPE: Citation

LANGUAGE: English

DESCRIPTORS:

MAJOR CONCEPTS: Methods and Techniques; Molecular Genetics (Biochemistry and Molecular Biophysics)

BIOSYSTEMATIC NAMES: Bacteroidaceae--Anaerobic Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms; Enterobacteriaceae--Facultatively Anaerobic Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms

ORGANISMS: E. \*coli\* {Escherichia \*coli\*} (Enterobacteriaceae);

\*Fusobacterium\* nucleatum (Bacteroidaceae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Bacteria; Eubacteria; Microorganisms

CHEMICALS & BIOCHEMICALS: pHS17---\*shuttle\* plasmid; DNA--transfer

METHODS & EQUIPMENT: electroporation--DNA transfer method

MISCELLANEOUS TERMS: Meeting Abstract; Meeting Poster

CONCEPT CODES:

31500 Genetics of Bacteria and Viruses  
10050 Biochemical Methods-General  
10060 Biochemical Studies-General  
32000 Microbiological Apparatus, Methods and Media  
31000 Physiology and Biochemistry of Bacteria  
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

BIOSYSTEMATIC CODES:

06702 Enterobacteriaceae (1992- )  
06901 Bacteroidaceae (1992- )

14/9/3 (Item 3 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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09974676 BIOSIS NO.: 199598429594

Insertional inactivation of binding determinants of Streptococcus crista CC5A using Tn916.

AUTHOR: Correia F F; Dirienzo J M; Lamont R J; Anderman C; McKay T L; Rosan Burton(a)

AUTHOR ADDRESS: (a)Dep. Microbiol., Sch. Dent. Med., Univ. Pa., 4001 Spruce St., Philadelphia, PA 19104-6002\*\*USA

JOURNAL: Oral Microbiology and Immunology 10 (4):p220-226 1995

ISSN: 0902-0055

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Intermicrobial binding plays an important role in the ecology of

the oral cavity because it represents one mechanism by which specific bacteria colonize dental plaque. The formation of "corncobs", a morphologically distinct microbial unit composed of *Streptococcus crista* and *Fusobacterium nucleatum*, is a highly specific binding interaction that depends on the presence of polar tufts of fimbriae on the streptococci. We have used a genetic approach to examine the role of streptococcal cell surface components involved in the binding of *S. crista* to *F. nucleatum*. Such binding may be an important component of corncob formation. A method for the genetic transformation of *S. crista* was used to transfer the broad host range transposon, Tn916, into the bacteria. Cells were grown to early log phase in brain heart infusion broth containing 10% fetal calf serum. The competent cells were mixed with purified DNA from pDL916, a plasmid construct consisting of Tn916 and the streptococcal/*Escherichia coli* shuttle vector pDL278. Over 300 transformants were screened for a reduction in binding to *F. nucleatum*. Five of the transformants showed a change in binding ranging from 59% to 29% of the positive control values. Southern blots revealed that the binding-deficient transformants contained the Tn916 element integrated into one of 4 different sites in the chromosome. The transposon, integrated into 4 different sites, appeared to be stable in the absence of selective pressure. Based on these findings, it appears that some strains of *S. crista* are naturally competent and that insertional inactivation methods can be used to facilitate the study of binding receptors in this group of oral streptococci.

#### DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Membranes (Cell Biology); Physiology  
 BIOSYSTEMATIC NAMES: Bacteroidaceae--Eubacteria, Bacteria; Gram-Positive Cocci--Eubacteria, Bacteria  
 ORGANISMS: gram-positive cocci (Gram-Positive Cocci); *Fusobacterium nucleatum* (Bacteroidaceae); *Streptococcus crista* (Gram-Positive Cocci)  
 BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): bacteria; eubacteria; microorganisms  
 MISCELLANEOUS TERMS: BINDING RECEPTOR; CELL SURFACE COMPONENT; DNA TRANSFER

#### CONCEPT CODES:

10506 Biophysics-Molecular Properties and Macromolecules  
 10508 Biophysics-Membrane Phenomena  
 31000 Physiology and Biochemistry of Bacteria  
 31500 Genetics of Bacteria and Viruses  
 10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

#### BIOSYSTEMATIC CODES:

06901 Bacteroidaceae (1992- )  
 07700 Gram-Positive Cocci (1992- )

14/9/4 (Item 1 from file: 155)  
 DIALOG(R)File 155:MEDLINE(R)

10483664 20115567 PMID: 10648549

Native plasmids of *Fusobacterium nucleatum*: characterization and use in development of genetic systems.

Haake SK; Yoder SC; Attarian G; Podkaminer K

Divisions of Associated Clinical Sciences, UCLA School of Dentistry, Los Angeles, California 90095-1668, USA. shaake@dent.ucla.edu

Journal of bacteriology (UNITED STATES) Feb 2000, 182 (4) p1176-80,

ISSN 0021-9193 Journal Code: HH3

Contract/Grant No.: DE12639, DE, NIDCR

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Subfile: INDEX MEDICUS

Three native plasmids of *Fusobacterium nucleatum* were characterized, including DNA sequence analysis of one plasmid, pFN1. A shuttle plasmid, pHS17, capable of transforming *Escherichia coli* and *F. nucleatum* ATCC 10953 was constructed with pFN1. pHS17 was stably maintained in the *F. nucleatum* transformants, and differences in the transformation efficiencies suggested the presence of a restriction-modification system in *F. nucleatum*.

Tags: Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: \*Fusobacterium\* nucleatum--genetics--GE; \*Plasmids--genetics  
--GE; \*Transformation, Bacterial; Amino Acid Sequence; DNA, Bacterial  
--analysis--AN; Endodeoxyribonucleases--chemistry--CH; Escherichia \*coli\*  
--genetics--GE; \*Fusobacterium\* nucleatum--enzymology--EN; Molecular  
Sequence Data; Sequence Analysis, DNA

Molecular Sequence Databank No.: GENBANK/AF159249; GENBANK/AF219231

CAS Registry No.: 0 (DNA, Bacterial); 0 (Plasmids)

Enzyme No.: EC 2.7.7.- (DNA relaxase); EC 3.1.-  
(Endodeoxyribonucleases)

Record Date Created: 20000223

?logoff

24aug01 17:40:18 User259980 Session D148.2  
\$6.78 1.210 DialUnits File5  
\$41.25 25 Type(s) in Format 9  
\$41.25 25 Types  
\$48.03 Estimated cost File5  
\$3.96 0.276 DialUnits File434  
\$8.40 2 Type(s) in Format 9  
\$8.40 2 Types  
\$12.36 Estimated cost File434  
\$3.85 1.203 DialUnits File155  
\$1.80 9 Type(s) in Format 9  
\$1.80 9 Types  
\$5.65 Estimated cost File155  
OneSearch, 3 files, 2.690 DialUnits FileOS  
\$0.35 TYMNET  
\$66.39 Estimated cost this search  
\$66.64 Estimated total session cost 2.762 DialUnits

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### Status: Signing onto Dialog
*****
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***** HHHHHHHH SSSSSSS? *****
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***IBISWorld Market Research (File 753)
***Investext PDF Index (File 745)
***Daily and Sunday Telegraph (London) Papers (File 756)
***The Mirror Group Publications (United Kingdom) (File 757)

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UPDATING RESUMED
***Delphes European Business (File 481)
***Books In Print (File 470)
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***Kompas Canada (File 594)
***CANCERLIT (File 159)
***Information Science Abstracts (File 202)

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File 1:ERIC 1966-2001/Aug 17
(c) format only 2001 The Dialog Corporation

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Set Items Description
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?s 434, 5, 155
S1 0 434, 5, 155

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?b 434, 5, 155  
27aug01 11:18:54 User259980 Session D149.1  
\$0.51 0.146 DialUnits File1  
\$0.51 Estimated cost File1  
\$0.05 TYMNET  
\$0.56 Estimated cost this search  
\$0.56 Estimated total session cost 0.146 DialUnits

SYSTEM:OS - DIALOG OneSearch  
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
(c) 1998 Inst for Sci Info  
File 5:Biosis Previews(R) 1969-2001/Aug W3  
(c) 2001 BIOSIS  
File 155:MEDLINE(R) 1966-2001/Sep W3

Set Items Description  
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?e au=kinder haake, susan

Ref	Items	Index-term
E1	1	AU=KINDER HAAKE SA
E2	1	AU=KINDER HAAKE SUSAN
E3	0	*AU=KINDER HAAKE, SUSAN
E4	1	AU=KINDER HD
E5	2	AU=KINDER HEIKO
E6	2	AU=KINDER I
E7	46	AU=KINDER J
E8	186	AU=KINDER J E
E9	1	AU=KINDER J M
E10	1	AU=KINDER J P
E11	3	AU=KINDER J W
E12	3	AU=KINDER JAMES E

Enter P or PAGE for more

?s e1  
S1 1 AU="KINDER HAAKE SA"  
?t/3/all

1/3/1 (Item 1 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)

09133878 97180042 PMID: 9028259  
Effect of oral bacteria on peripheral blood leukocyte interleukin-6 and  
soluble interleukin-6 receptor production.  
Lindemann RA; \*Kinder Haake SA\*; Kjeldsen M; Avanesian AB  
Section of Oral Biology, UCLA School of Dentistry 90095-1668, USA.  
Oral microbiology and immunology (DENMARK) Oct 1996, 11 (5) p332-6,  
ISSN 0902-0055 Journal Code: ORA  
Contract/Grant No.: CA-16042, CA, NCI; DE09174, DE, NIDCR  
Languages: ENGLISH  
Document type: Journal Article  
Record type: Completed  
?e au=finegold, sm

Ref	Items	Index-term
E1	1	AU=FINEGOLD WJ
E2	1	AU=FINEGOLD-GAMMON H
E3	0	*AU=FINEGOLD, SM
E4	1	AU=FINEGOLDS M
E5	19	AU=FINEGOOD D
E6	69	AU=FINEGOOD D T
E7	5	AU=FINEGOOD DIANE
E8	36	AU=FINEGOOD DIANE T
E9	85	AU=FINEGOOD DT
E10	6	AU=FINEK J
E11	1	AU=FINEK JINDRICH
E12	1	AU=FINEKLSHTEIN SK

Enter P or PAGE for more

?p

Ref	Items	Index-term
E13	1	AU=FINEKLSTEIN JOEL S
E14	13	AU=FINEL A
E15	1	AU=FINEL CHRISTOPHE MICHEL
E16	13	AU=FINEL E
E17	53	AU=FINEL M
E18	19	AU=FINEL MOSHE
E19	6	AU=FINELEVY JB
E20	1	AU=FINELHOR DAVID
E21	1	AU=FINELIS VG
E22	7	AU=FINELL B
E23	3	AU=FINELL G
E24	3	AU=FINELL GR

Enter P or PAGE for more  
 ?s fusobacterium and pfnl  
     6050 FUSOBACTERIUM  
        13 PFN1  
     S2      2 FUSOBACTERIUM AND PFN1  
 ?rd  
 ...completed examining records  
     S3      2 RD (unique items)  
 ?t/3/all

3/3/1 (Item 1 from file: 5)  
 DIALOG(R)File 5:BIOSIS Previews(R)  
 (c) 2001 BIOSIS. All rts. reserv.

12360222 BIOSIS NO.: 200000113724  
 Native plasmids of \*Fusobacterium\* nucleatum: Characterization and use in development of genetic systems.  
 AUTHOR: Kinder Haake Susan(a); Yoder Sean C; Attarian Gwynne; Podkaminer Kara  
 AUTHOR ADDRESS: (a)Section of Periodontics, UCLA School of Dentistry, 10833 Le Conte Ave., Los Angeles, CA, 90095-1668\*\*USA  
 JOURNAL: Journal of Bacteriology 182 (4):p1176-1180 Feb., 2000  
 ISSN: 0021-9193  
 DOCUMENT TYPE: Article  
 RECORD TYPE: Abstract  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

3/3/2 (Item 1 from file: 155)  
 DIALOG(R)File 155:MEDLINE(R)

10483664 20115567 PMID: 10648549  
 Native plasmids of \*Fusobacterium\* nucleatum: characterization and use in development of genetic systems.  
 Haake SK; Yoder SC; Attarian G; Podkaminer K  
 Divisions of Associated Clinical Sciences, UCLA School of Dentistry, Los Angeles, California 90095-1668, USA. shaake@dent.ucla.edu  
 Journal of bacteriology (UNITED STATES) Feb 2000, 182 (4) p1176-80,  
 ISSN 0021-9193 Journal Code: HH3  
 Contract/Grant No.: DE12639, DE, NIDCR  
 Languages: ENGLISH  
 Document type: Journal Article  
 Record type: Completed

?logoff  
 27aug01 11:22:47 User259980 Session D149.2  
     \$1.20 0.084 DialUnits File434  
 \$1.20 Estimated cost File434  
     \$1.41 0.251 DialUnits File5  
        \$1.65 1 Type(s) in Format 3  
        \$1.65 1 Types  
 \$3.06 Estimated cost File5  
     \$1.01 0.314 DialUnits File155  
        \$0.40 2 Type(s) in Format 3  
        \$0.40 2 Types  
 \$1.41 Estimated cost File155

OneSearch, 3 files, 0.650 DialUnits FileOS  
\$0.20 TYMNET  
\$5.87 Estimated cost this search  
\$6.43 Estimated total session cost 0.796 DialUnits

### Status: Signed Off. (5 minutes)